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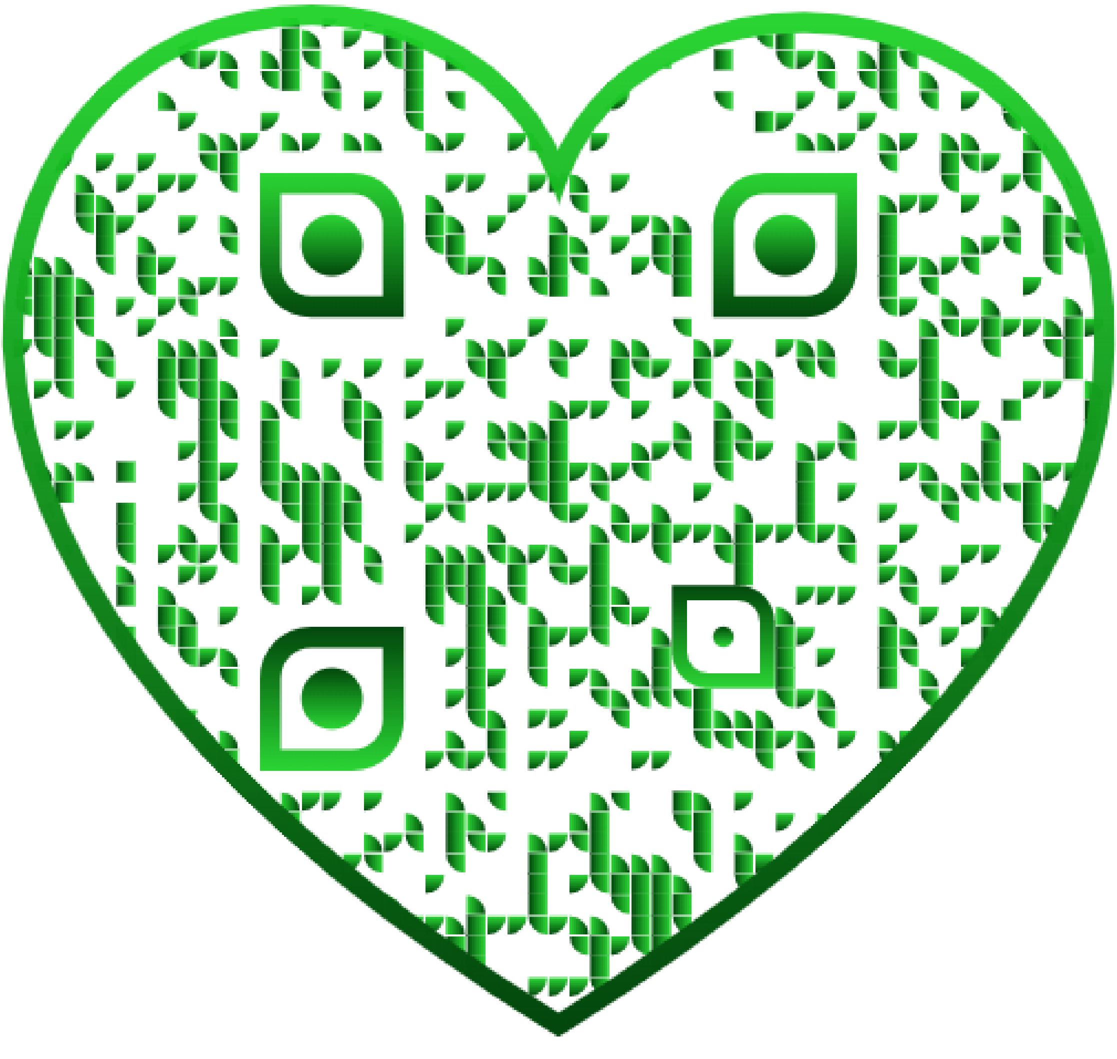

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THE WAY OF WARRIORS
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PLUS

On the cover

An E-2C Hawkeye of VAW-123 'Screwtops' on the flight deck of the Nimitz-class aircraft carrier USS *Dwight D Eisenhower* (CVN 69) in the Red Sea
US Navy

Welcome

Welcome to the latest issue of *Aviation News*. I hope you are reading this outside in the garden as we head into the summer months.

As well as better weather, what do the summer months bring? More travel. With that, it seems great timing that Istanbul Airport (IST) accomplished a European first on being able to allow simultaneous take-offs from three of its runways to increase movements and efficiency. It demonstrated this capability in mid-April when three Turkish Airlines airframes all took off simultaneously from Turkey's largest airport – an innovative move for commercial travel.

Talking about innovation, United Airlines has announced an investment in JetZero's blended wing body aircraft programme, which could lead to the US airline purchasing up to 200 examples of the type. The conditional purchase does depend on milestones being reached, including that a full-scale demonstrator must be airborne by 2027.

Many of you will have seen on the news that the UK has launched another Carrier Strike Group deployment, with HMS *Prince of Wales* as the flagship. Known as Operation Highmast, the operation will see the CSG integrating with allies in the Mediterranean, Middle East, South-east Asia, Japan and Australia.

Staying on the topic of aircraft carriers, our cover story is a great chat with US Navy aircraft carrier captain Chris 'Chowdah' Hill, who commanded the USS *Dwight D Eisenhower* (CVN69) for a historic deployment in the Red Sea during challenging times in the Middle East.

Other features this month include a report on new technology in Embraer E2 aircraft that allows take-off on autopilot and a celebration of 40 years of Sao Paulo Airport in Brazil. Our *Snapshot* feature offers a unique perspective of Phuket International Airport in Thailand from a nearby beach situated on the final approach. And as April 2025 was full of large force global military exercises, we cover both Iniochos and NATO's Ramstein Flag

I hope you enjoy the issue.

Joe

Joe Campion, Editor

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Main image : **An Aeronautica Militare Panavia Tornado shreds the Greek low level training area during Exercise Iniochos 2025** Rich Cooper

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United invests in blended wing

ON APRIL 24, United announced an investment in blended-wing body (BWB) aircraft start-up JetZero, which is developing a pioneering design in commercial aviation with an aim to deliver fuel efficiency and enhance customer experience. The investment includes a potential path for United to purchase up to 200 of the new aircraft type. With the conditional purchase of up to 100 aircraft and an option for an additional 100 dependant on JetZero achieving development milestones, including flight of a full-scale demonstrator by 2027. Other achievements are that the aircraft must meet United's safety, business and operating requirements.

The design of the BWB reduces drag and produces lift, which reportedly can lead to up 50% fuel reduction in fuel burn per passenger mile compared to similar sized twin-aisle aircraft. In 2023, the USAF announced a $235m contract with JetZero to fast-track the development of the company's demonstrator. Titled the JetZero Z4, the aircraft is designed to accommodate up to 250 passengers and fly on conventional jet fuel.

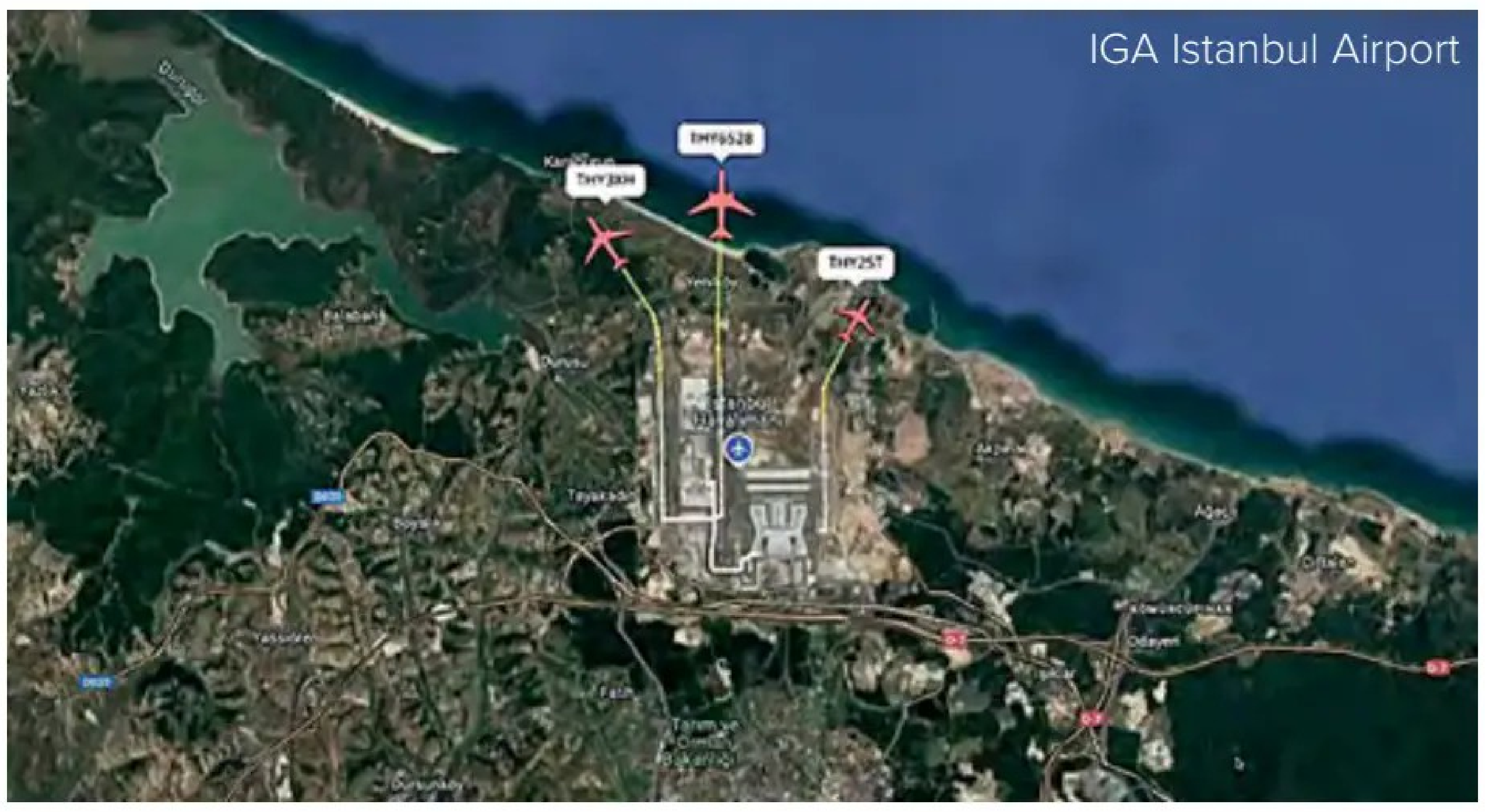
Andrew Chang, head of United Airlines Ventures (UAV), said: "If successful, JetZero has the potential to evolve our core mainline business by developing aircraft with a bigger, more comfortable cabin experience for our customers while increasing fuel efficiency across our network. United Airlines Ventures was created to support our efforts to find innovative companies that can enhance customer travel experience and help the airline lower its carbon footprint, and we believe JetZero reflects that philosophy."

The CEO and co-founder of JetZero, Tom O'Leary, added: "United's investment in our company signals the industry's belief that new, innovative technology is needed in order to achieve the efficiency and cost savings that will be required to meet the continued growth in demand for air travel across the globe. JetZero is focused on one key technology – the airframe – that enables us to address all of the barriers to growth. This programme is the only one in development today that promises efficiency and elevated customer experience."

Artist rendering of the BWB in a United Scheme United Airlines

Istanbul pull of a first

IGA Istanbul Airport



IGA Istanbul Airport

ISTANBUL INTERNATIONAL Airport is the first airport in Europe to operate flights from three runways at the same time. The airport introduced triple runway operations on April 17, 2025, when Turkey's Minister of Transport and Infrastructure, Abdulkadir Uraloğlu, gave the first command to the pilots of three scheduled flights to take-off simultaneously. The flights were THY3XH to Amsterdam/Schiphol in the Netherlands (Airbus A321), Turkish Cargo flight THY6528 to Almaty, Kazakhstan (Boeing 777F) and THY25T to Taipei, Taiwan (Airbus A350).

A statement from the airport said: "The airport's hourly air traffic capacity has increased from 120 to 148 aircraft movements. This operational transformation not only optimises traffic management in Istanbul, but also across European airspace, making it faster, safer and more efficient. The additional 28 aircraft movements per hour mean shorter waiting times for airlines, fewer delays for passengers and reduced carbon emissions for the environment."

Mehmet Kalyoncu, board member of iGA Istanbul Airport, said: "I am proud to state that as of today we are officially launching triple independent runway operations, setting a precedent in Europe and once again elevating Turkey to the top in the field of aviation. This is not only a technical achievement for us, but also a strategic milestone. We have taken a significant step toward our goal of becoming one of the leading centres equipped with advanced technologies in global aviation. Istanbul is no longer just a destination – it is now a global air transport hub."

The airport explained it had conducted "a comprehensive safety analysis and airspace design process" in close co-operation with the General Directorate of State Airports Authority, the Directorate General of Civil Aviation, Turkish Airlines, Eurocontrol and other international authorities. A total of 500 air traffic controllers underwent 4,500 hours of training based on specially developed operational scenarios for the new system.

The airport commented: "The new operational structure is supported by cutting-edge solutions such as advanced radar systems, full A-CDM integration, improved slot management and digitally optimised taxi times. In addition, close co-ordination with Eurocontrol ensures seamless integration with European airspace, reduces delays and optimises traffic flow. Air traffic control teams use the latest radar systems, navigation tools and predictive analytics to ensure smooth operations."

Profit for Virgin Atlantic

VIRGIN ATLANTIC has reported full-year operating profits of £230m and a pre-tax profit of £19.7m before exceptional items for the year ending December 31, 2024. The carrier said this was thanks to its four-year turnaround plan, launched in 2022, to make the airline "sustainably profitable." The results marked the carrier's return to profit for the first time since the COVID-19 pandemic.

In a statement, Virgin said passenger capacity growth of 7.6% and continued demand for business and premium leisure travel had helped it achieve record revenues of £3.3bn. It added that it had paid off around £174m of its pandemic debt, leaving it with a total cash position at the end of 2024 of £443m.

CEO Shai Weiss said the results "marked a big step forward" and were a "turning point" for the carrier. Weiss added there was "much to look forward to in 2025", including the launch of new routes to Toronto and Riyadh, which both began on March 30, and Cancun, Mexico, from October 19.

However, the airline's CFO, Oliver Byers, cautioned that there had been some signals that demand for transatlantic air travel was slowing as political tensions continued to grow between the US and Europe.

virgin atlantic
Virgin

Lee Spencer

Oneworld's newest member

FIJI AIRWAYS, the flag carrier of Fiji and the South Pacific, has been welcomed into the oneworld alliance as its newest member. Based at Nadi International Airport, the airline serves 25 destinations in 14 countries, including oneworld hubs in Dallas/Fort Worth, Hong Kong, Tokyo and Sydney.

As a full member airline, top-tier Fiji Airways customers will benefit from access to a network of nearly 700 airport lounges globally, priority check-in and boarding and the ability to earn tier points and redeem miles. The airline has also adopted the American Airlines AAdvantage travel rewards programme as its frequent flyer programme.

Fiji CEO Andre Viljoen commented: "Becoming a full member of the oneworld alliance is a proud and momentous milestone for Fiji Airways. This achievement reflects our commitment to providing world-class service and expanding our global reach while showcasing the warmth and hospitality of Fiji to the world."

Oneworld

The airline's addition to oneworld brings the total number of airlines in the alliance to 14: Alaska Airlines, American Airlines, British Airways, Cathay Pacific, Fiji Airways, Finnair, Iberia, Japan Airlines, Malaysia Airlines, Qantas, Qatar Airways, Royal Air Maroc, Royal Jordanian and SriLankan Airlines, along with 20 of their affiliates.

First C909 for Lao

LAO AIRLINES has become the second operator outside of China of the Comac C909 after receiving its maiden example on March 30. The aircraft, RDPL-34229 (c/n 10156), is on lease from the Chinese manufacturer and entered service with the flag carrier of Laos on April 12, flying between Vientiane and Pakse. Laotian authorities certified the jet on March 18.

The C909 has been configured with 90 seats in a single-class layout. Comac will also assist the Laotian carrier with training, maintenance and operational support to ensure a smooth entry into service.

Based in Vientiane, the airline's fleet consists of four Airbus A320-200s, four ATR 72-500s, three ATR 72-600s and a single MA-60, which is wet-leased from domestic carrier Lao Skyway.

Lao Airlines
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Lao Airlines

Will Delta defer?

THE CEO of Delta Air Lines, Ed Bastian, has said the airline could defer deliveries of Airbus aircraft if they are struck by tariffs. Bastian spoke on April 9 during the airline's earnings call, during which he said that Delta was working with the manufacturer to minimise the effects of US President Donald Trump's decision to impose steep trading tariffs on countries around the world. Since the call, Trump has reversed his decision temporarily. If the tariffs were implemented, the cost of aircraft could increase by 10-20%, a figure that Bastian said would be "very difficult" to work with.

Delta operates a varied fleet comprising both Boeing and Airbus airframes. From the latter, the airline has purchase commitments for 69 A220s, 82 A321neos, six A330-900s, eight A350-900s and 20 A350-1000s.

The proposed tariffs also led the airline to cut its growth plans for the year, with forward bookings currently weaker than expected. This has prompted Delta to pull its 2025 full-year financial guidance after previously predicting that 2025 would be the "best financial year" in the airline's history. Year-on-year capacity growth will remain flat, with the fleet expected to grow by fewer than ten aircraft. Financial savings would also be made through the acceleration of the retiring of aircraft from the fleet, including older Boeing 757 and 767s and Airbus A319s and A320s.

First new neo for Lufthansa City

Lufthansa City
D-AIJP
LUFTHANSA GROUP

Lufthansa City Airlines has taken delivery of its first new Airbus A320neo. The Pratt & Whitney PW1100G-powered jet, D-AIJP (c/n 12540) Ingelheim *am Rhein*, joins the airline's fleet of four A319s and four A320neos, all of which had been transferred from Lufthansa Group carriers. The airline is expected to receive another seven A320neos this year, five of which will come directly from the manufacturer LUFTHANSA GROUP

Gulf Air at Gatwick

BAHRAIN FLAG carrier Gulf Air strengthened its presence in London with the addition of thrice-weekly flights to Gatwick from March 30. The link, which complements its daily Heathrow service, is operated by the airline's Boeing 787-9 Dreamliners on Wednesdays, Fridays and Sundays.

Flight GF9 leaves Bahrain at 0145hrs, arriving at the London gateway seven hours later at 0655hrs. Return flight GF8 departs Gatwick at 1125hrs, landing six-and-a-half hours later at 2000hrs.

Gatwick is Gulf Air's third UK destination, including Manchester, which is served five times weekly from Wednesday through Sunday. The flag carrier's 42-strong fleet comprises eight Airbus A321-200s, six A320neos, four A321-200s, 14 A321neos and ten 787-9s.

Lee Spencer

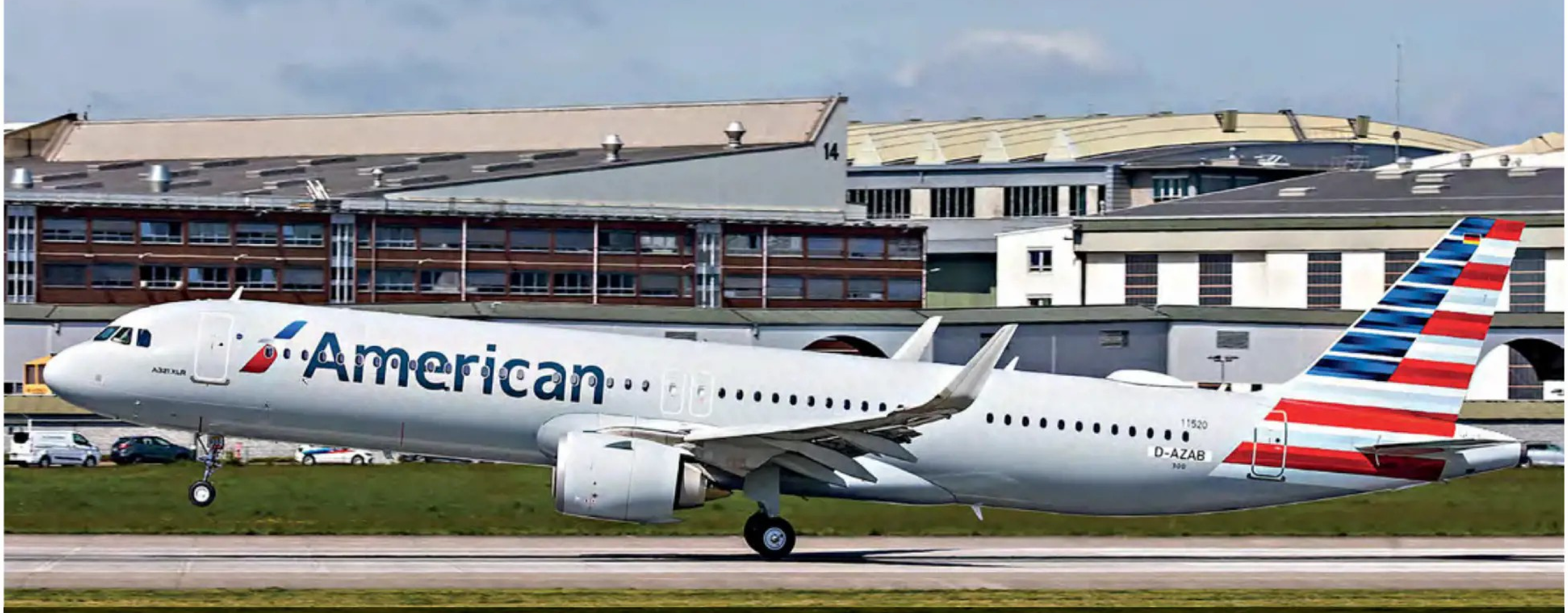
Boost for Birmingham

BIRMINGHAM AIRPORT is spending £10m to expand and upgrade its arrivals area as passenger numbers continue to increase. The airport said the upgrade will allow it to process up to eight arriving flights per hour.

Projects include adding another baggage carousel at a cost of £4.2m, which is expected to be completed before the peak summer season. Three new Border Force control desks will also be installed, along with a larger immigration hall in the 'south' arrivals area, to process arriving passengers at a cost of £6.4m.

Al Titterington, terminal operations director, said that by investing in these areas, the airport can "adequately cater for the increase in customers," ensuring the airport is on its way to hitting its 13.8 million passenger target for the year.

American Airlines XLR in Full Colours



The first of 50 A321 XLR on order for American Airlines had its Bravo-Flight (2nd flight) at Airbus Hamburg today and is now in full color incl. the logo beside the titles, will be N300NY (msn 11520). Dirk Grothe

Binter's expansion

Binter Canarias

SPANISH REGIONAL carrier Binter Canarias has added several new routes to its network as part of its expansion for the 2025 summer season, which sees a 30% increase in capacity with more than 1.37 million seats.

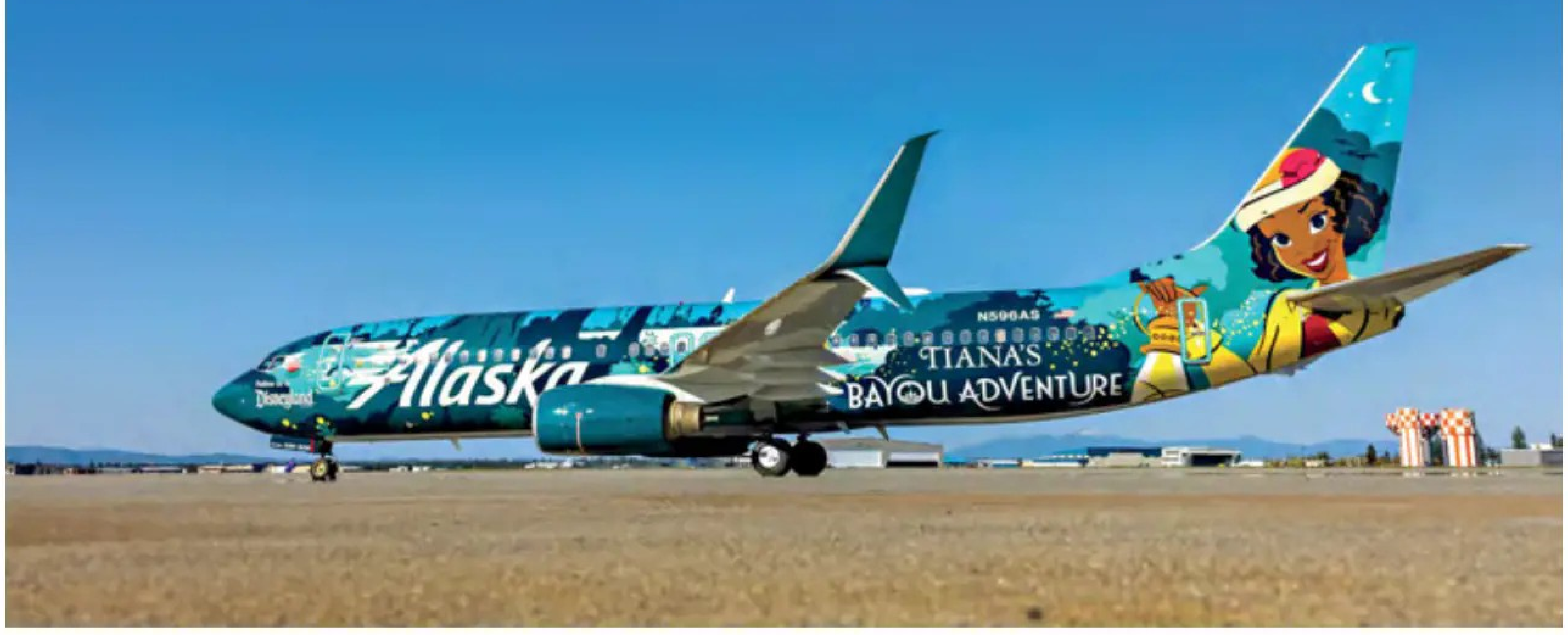
From Gran Canaria and Tenerife/North, it has added several new destinations in mainland Spain, including Badajoz, Córdoba, Almería and Valencia. The first three destinations will be flown twice weekly, while the last will be served four times weekly. With these additional routes, the airline now connects the Canary Islands with 18 destinations across Spain.

In addition, Binter has launched new services from Tenerife/North to A Coruña, San Sebastián, Granada, Pamplona and Murcia, complementing the same routes already operating from Gran Canaria. The carrier also began flying to Ponta Delgada, Portugal, on April 7. The Portuguese city will also be served from Tenerife/North starting in July.

The new routes will be operated by the Embraer E195-E2, of which Binter has 14 on its roster, with two more on order. The Gran Canaria-based carrier also flies 28 ATR 72s.

Alaska special livery

Alaska Airline's has painted its ninth Disney-schemed aircraft and the first to feature a Disney princess. It has painted a Boeing 737-900 with inspiration from the 2009 animated feature *The Princess and the Frog* and is labelled 'Tiana's Bayou Adventure Flyer' to tie in with the new Tiana's Bayou Adventure attraction at Disneyland Resort in California and Walt Disney World in Florida Alaska Airlines



NEWS IN BRIEF

SÃO PAULO-BASED Embraer delivered 30 aircraft in the first quarter of 2025, an increase of 20% on the same period in 2024, when 25 examples were handed over. Volumes from its Commercial Aviation division remained stable with seven aircraft, comprising three E175s and four E195-E2s, in comparison to four E175s and three E195-E2s last year. Executive Aviation numbers were higher, with 23 jets delivered in the first quarter of 2025 compared to 18 during the same period last year – an increase of 28%. The company expects to hand over between 77 and 85 commercial aircraft in 2025, an increase of 10% on 2024, and 145 to 155 executive jets, a 15% rise on last year. Since it was founded in 1969, the Brazilian manufacturer has produced more than 9,000 aircraft.

ATR HAS signed a contract with Canadian hydroelectricity provider Hydro Québec for the sale of three ATR 72-600s plus options, with deliveries scheduled from September 2026. The aircraft will replace older generation turboprops that the power supplier uses to transport staff around its network of 62 hydroelectric generating stations scattered across the province.

FLAG CARRIER Sudan Airways has restarted operations after a near three-month pause, following the return of its sole Airbus A320-214 from maintenance. The 180-seat narrowbody, ST-MKW (c/n 3040), was in Cairo undergoing the work between January 3 and March 25, ADS-B data suggests. The 18-year-old airframe has been used by the Sudanese carrier since January 2009 following short stints with Spanish low-cost carrier Vueling and start-up Comoro Islands Airline.

NIGERIAN AIRLINE Green Africa Airways has acquired its first owned aircraft in the form of an ATR 72-500. The 16-year-old ex-Aurigny turboprop, 5N-GAB (c/n 852), arrived at the airline's Lagos/Murtala Muhammed base on April 1 after a four-day ferry flight from Toulouse/Francazal via Toulouse/Blagnac and Agadir/Al Massira.

EASTERN AIRWAYS' fresh Newquay to London/Southend service took off on April 3. Passengers on the inaugural flight were treated to a classic Cornish cream tea, while those on the return journey to Southend enjoyed a surf-inspired celebration in the terminal. The daily flight will be operated by one of the carrier's ATR 72-600s. It joins Eastern's twice-daily link to London/Gatwick.

AIR CANADA has announced a new route from Edinburgh to Montréal from June 27. The flight will be operated by one of the carrier's Boeing 737 MAX 8s and will be flown thrice weekly. The new addition means that the Canadian flag carrier will now offer 75 weekly flights between the UK and Canada for summer 2025, with routes to London/Heathrow, Manchester and Edinburgh to cities including Calgary, Halifax, Montréal, Ottawa, Toronto and Vancouver.

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HMS *Prince of Wales* departs for deployment

THE UK'S aircraft carrier, *HMS Prince of Wales* departed the UK on April 22, leading the Carrier Strike Group for eight months. Designated Operation Highmast, it's a multinational deployment that aims to reaffirm the UK's commitment to the security of the Mediterranean and Indo-Pacific, while providing an opportunity to promote British trade and industry.

This will be the second deployment of the UK's Carrier Strike Group (CSG25) – the first was led by HMS *Queen Elizabeth* in 2021 – and will be commanded by Commodore James 'Blackers' Blackmore. The deployment will begin with around 2,500 military personnel – roughly 2,100 Britons, 200 Norwegians and a similar number of Canadians and Spaniards – rising to more than 4,500 for some of the key exercises as the force reaches the Far East.

Portsmouth bidding farewell to the HMS *Prince of Wales* (R09) on April 22 as it embarked on the eight-month Operation Highmast mission. There were hundreds of well-wishers on the harbour as the carrier set sail Crown Copyright/CPO Dave Jenkins

The task group was joined in the English Channel by two Norwegian vessels, tanker HNoMS *Maud* and frigate HNoMS *Roald Amundsen*, both sailing directly from Norway. While the frigate HMS *Richmond* and Canadian frigate HMCS *Ville de Québec* joined from Plymouth, Royal Fleet Auxiliary tanker RFA *Tidespring* will complete the strike group's initial format. New Zealand's HMNZS *Te Kaha*, an ANZAC-class frigate, will join CSG25 when the force enters the Indian Ocean. After reaching the Philippines, the Spanish Navy frigate *Méndez Núñez* will leave the group, having joined it in the Mediterranean, and return to Spain.

Between now and December, the Carrier Strike Group will conduct a series of exercises and operations with air, sea and land forces of a dozen allies in the Mediterranean, Middle East, Southeast Asia, Japan and Australia. But as the huge 65-tonne carrier edges towards the east of the Mediterranean and into the Suez Canal, then the Red Sea, danger could be lurking from Iranian-backed Houthi insurgents. This all comes at a time when the US is building up its military might for a possible attack on Iran, so it won't be plain sailing. **Alan Warnes**

Second Ukraine F-16 shot down

THE UKRAINE Air Force (UkrAF) has confirmed that one of its US-built F-16 fighters has been shot down during a combat mission in the east of the war-torn country, resulting in the death of its pilot. The incident is the second loss of one of the newly acquired jets, with the first being brought down in August last year, also killing its pilot.

In a statement, the UkrAF said: "On April 12, 2025, 26-year-old Pavlo Ivanov died while performing a combat mission in an F-16 aircraft. We express our deepest condolences to Pavlo's family. He died in battle, defending his native land from the occupiers.

"Today, F-16 pilots perform combat missions in various directions in incredibly difficult conditions almost every day, providing fighter cover for air strike groups and striking enemy targets. Ukrainian pilots work to the maximum of their human and technical capabilities, each time risking their lives while performing combat missions. All circumstances of the tragedy are being established by an interdepartmental commission, which has already begun its work. Eternal flight, hero!"

President Volodymyr Zelenskyy also confirmed the loss on social media, saying that military reports are being prepared to clarify the circumstances. The statements by the UkrAF and Zelenskyy did not specify the exact location or circumstances of the loss, fuelling speculation as to whether the fighter was downed by a Russian surface-to-air missile (SAM) or friendly fire.

One of the first F-16s to be delivered to the Ukraine Air Force in the summer of 2024. Since then, two have been lost during combat missions, with the deaths of two pilots UkrAF

Three in three days

One of the Ilyushin Il-20M *Coot-A* aircraft intercepted by RAF Typhoons following an alpha scramble in April MOD/Crown Copyright

RAF TYPHOONS deployed on Operation Chessman – the UK designation for the latest iteration of NATO Enhanced Air Policing – conducted three quick reaction alert scrambles in three days in mid-April to intercept Russian aircraft operating from Kaliningrad.

On April 15, a pair of Typhoons first intercepted an Ilyushin Il-20M *Coot-A* as it left Kaliningrad air space. Later the same day a pair of two SU-30SM2 *Flanker-Hs* were intercepted followed by a further *Coot* two days later.

Four Typhoon FGR4s from II(AC) Squadron at RAF Lossiemouth in Scotland are currently deployed to Malbork Air Base, Poland, augmented by six Swedish Air Force JAS 39 Gripens from Norrbotten Wing (F-21), the first time Swedish combat aircraft have operated under the command of NATO in the enhanced air policing mission since the country's accession to NATO in 2024.

Deployed RAF personnel are under the command of 140 Expeditionary Air Wing, also from RAF Lossiemouth, for the four-month duration of the detachment.

Wildcats shoot down drones

An 815 NAS wildcat helicopter conducting a Martlet missile firing MOD/Crown Copyright/AS1 Luke Unaisi

AS PART of preparations to deploy with Carrier Strike Group 25 (CSG25), Wildcat HMA2 helicopters of RNAS Yeovilton, Somerset-based 815 Naval Air Squadron participated in a series of counter-uncrewed air system (UAS) drills.

Conducted off the coast of Cornwall, Exercise Talon Strike saw 815 NAS use Martlet missiles to shoot down Banshee jet-powered drones flown by the Royal Navy's 700X NAS.

With CSG25 expected to pass through the Red Sea as it transits from the Mediterranean to planned exercise activity in the Indo-Pacific, the threat of drone and missile attack from Houthi rebels in Yemen is being taken seriously by RN planners.

The exercise was also of significance for the drone operators, as Banshee flight commander Lieutenant Tony Nairn said: "This event marks the culmination of two years of hard work for team Banshee.

"The engagement with the Wildcat further evidences the Banshee as a valued commodity among the war-fighting community. This is a sign of the ever-developing modern threat."

Real-time targeting

ON APRIL 8, during Ramstein Flag 2025, the Royal Netherlands Air Force achieved a major technological breakthrough. For the first time in Europe – and outside the United States – Dutch F-35s successfully shared real-time targeting data with the Keystone command-and-control system. This seamless integration between air and land domains marked a new chapter in NATO's multidomain warfare capabilities. In the scenario, an F-35 identified a ground target and instantly transmitted the information to Keystone. The system then relayed the data directly to a Dutch Army artillery unit, which launched a PULS (Precise and Universal Launching System) rocket strike within minutes. "From detection to destruction, the process took just a few minutes," confirmed a Netherlands defence ministry spokesperson.

The test was made possible through close collaboration between the Royal Netherlands Air Force, Lockheed Martin, the U.S. Air Force, and Dutch research organization TNO. It demonstrates how emerging technology can translate operational concepts into real-world capability at speed. Keystone, introduced in 2024, is already becoming a cornerstone of Dutch air-land integration. "This isn't just a demo," one Dutch officer says. "This is a proof of concept for how we intend to fight—and win—in a high-tempo, digitally integrated battlespace." With NATO allies watching closely, the success of the Keystone integration during Ramstein Flag 2025 underscores the alliance's ability to innovate and adapt, ensuring information superiority in future operations. **Ben Gorski**

An RNLAF F-35 seen during exercise Ramstein Flag 2025 Ben Stanley Hall

Finland joins NATO AWACS

Master Sergeant Aleksi after his first flight aboard a NATO E-3A AWACS NATO Air Command/OR-5 Andrew Hummel

A MEMBER of the Finnish Air Force has joined a NATO Airborne Warning and Control System (AWACS) flight for the first time, marking a significant milestone in Finland's integration into Allied Air Command operations.

On April 15, Master Sergeant Aleksi became the first Finnish crew member to fly aboard a NATO E-3A aircraft during Exercise Ramstein Alloy 2025, a regular air policing training event aimed at enhancing co-operation and readiness among allies in the Baltic region. Having completed rigorous training through the Aircrew Training Squadron, Aleksi now serves as a Weapons Controller, supporting the execution of complex multinational air operations. He said: "It was an honour to fly with NATO AWACS. You immediately feel the scale and complexity of the mission, working with so many nations in real-time. It's a powerful example of how NATO comes together in practice."

Ramstein Alloy is overseen by NATO's Combined Air Operations Centre Uedem under Allied Air Command (AIRCOM) and is designed to enhance interoperability and improve response procedures among Baltic air policing participants. Finland joined NATO in April 2023 and has since strengthened its role in collective defence through participation in multinational exercises and air missions. Its involvement in AWACS operations enhances situational awareness and contributes directly to NATO's deterrence posture in the region.

Portugal joins KC-390 ISR test programme

THE PORTUGUESE Air Force has announced that it is to join Embraer and the Brazilian Air Force in collaborative studies to identify potential adaptations to the current KC-390 Millennium multi-mission tactical airlift to perform intelligence, surveillance and reconnaissance (ISR) missions. The announcement was made on April 1, 2025, at a ceremony during the LAAD Defense & Security exhibition in Rio de Janeiro, in the presence of General João Cartaxo Alves, commander of the Portuguese Air Force, Lieutenant-Brigadier Marcelo Kanitz Damasceno, commander of the Brazilian Air Force, Francisco Gomes Neto, president and CEO of Embraer and Bosco da Costa Jr, president and CEO of Embraer Defence & Security.

During the ceremony, a concept image of the modular ISR roll-on/roll-off mission system currently under development was presented. This will allow the KC-390 to perform ISR missions while maintaining all its multi-mission capabilities.

Bosco da Costa Jr said: "We are delighted with the Portuguese Air Force's decision to join the studies for this new application for the KC-390 Millennium. Since the beginning of the programme, our Brazilian and Portuguese partners have been crucial in making the KC-390 project an undeniable operational and technical success."

Maiden flight for Polish built AW149

ON APRIL 14, 2025, the maiden AW149 helicopter to be built in Poland performed a test flight as part of the helicopter's compliance procedure with the design configuration, the so-called Acceptance Test Procedure (ATP). Further flight tests will be conducted in accordance with the art and schedule.

The rotorcraft was manufactured by PZL-Świdnik, as part of a contract for 32 multi-role helicopters for the Polish army that was signed on July 1, 2022, with Italian manufacturers Leonardo. The deal was based on the fleet of AW149s being built entirely in the eastern European state after Swidnik teams were trained in Italy.

Jacek Libucha, president of PZL-Świdnik, commented: "For all of us at PZL-Świdnik, April 14, 2025, is an extremely important date, marking another strategic achievement of the Świdnik plant. The new type of helicopter manufactured at PZL-Świdnik is an event that has been planned and expected for a long time. Today, while testing in flight this most modern helicopter in the world in this weight category, we all have reason to be deeply satisfied with our work for the Polish army."

The initial Polish-built AW149 takes to the air for its maiden test flight Polish Ministry of Defence

Combat Archer in the UK

Ben Stanley Hall

EIGHT USAF F-16CM Fighting Falcons from the 555th Fighter Squadron 'Triple Nickel' at Aviano Air Base in Italy arrived at RAF Lakenheath, Suffolk, on April 8 to take part in the largest live-firing exercise ever to be held in Europe by American forces.

The F-16CMs deployed to the UK – 87-0350, 87-0351, 87-0359, 88-0460, 89-2016, 89-2041, 89-2096 and 90-0773 – were participating in the Weapons System Evaluation Program (WSEP) exercise Combat Archer. The squadron used the UK Ministry of Defence's Aberporth range in Cardigan Bay off the Welsh coast for the weapons' firings and made use of Low Flying Area 17 (LFA17) in North West England for low-level training.

In a video message posted on social media on April 10, Col Kevin Jamieson, deputy director of operations, strategic deterrence and nuclear integration director at US Air Forces in Europe and Air Forces Africa (USAFE-AFAFRICA), said the exercise was "the largest Combat Archer to take place in Europe to date". The exercise is usually held at Tyndall AFB in Florida and is designed to assess and enhance operational fighter squadrons' readiness for combat operations.

Col Jamieson said: "This WSEP, dubbed Combat Archer UK, provides a comprehensive evaluation of all phases of combat operations. From weapons loading to aircraft and aircrew performance, this evaluation will deliver an end-to-end assessment of the kill chain in a realistic combat environment for the 555th Fighter Squadron. By simulating real-world engagements, Combat Archer ensures our crew and maintenance personnel are prepared for actual combat situations.

"Conducting Combat Archer here in the European area of responsibility holds significant strategic value by reducing the need for transatlantic aircraft movements, leading to substantial cost-savings. These exercises will integrate affordable munitions like the AGR-20 Falco laser-guided rocket to counter one-way attack drones, which enhances air force operational effectiveness and lethality while remaining on the right side of the cost curve."

In a later social media post, Aviano Air Base stated the exercise involved "evaluating multiple areas of operation to include missile employment and aerial gunnery".

New Spanish tanker

Airbus Defence

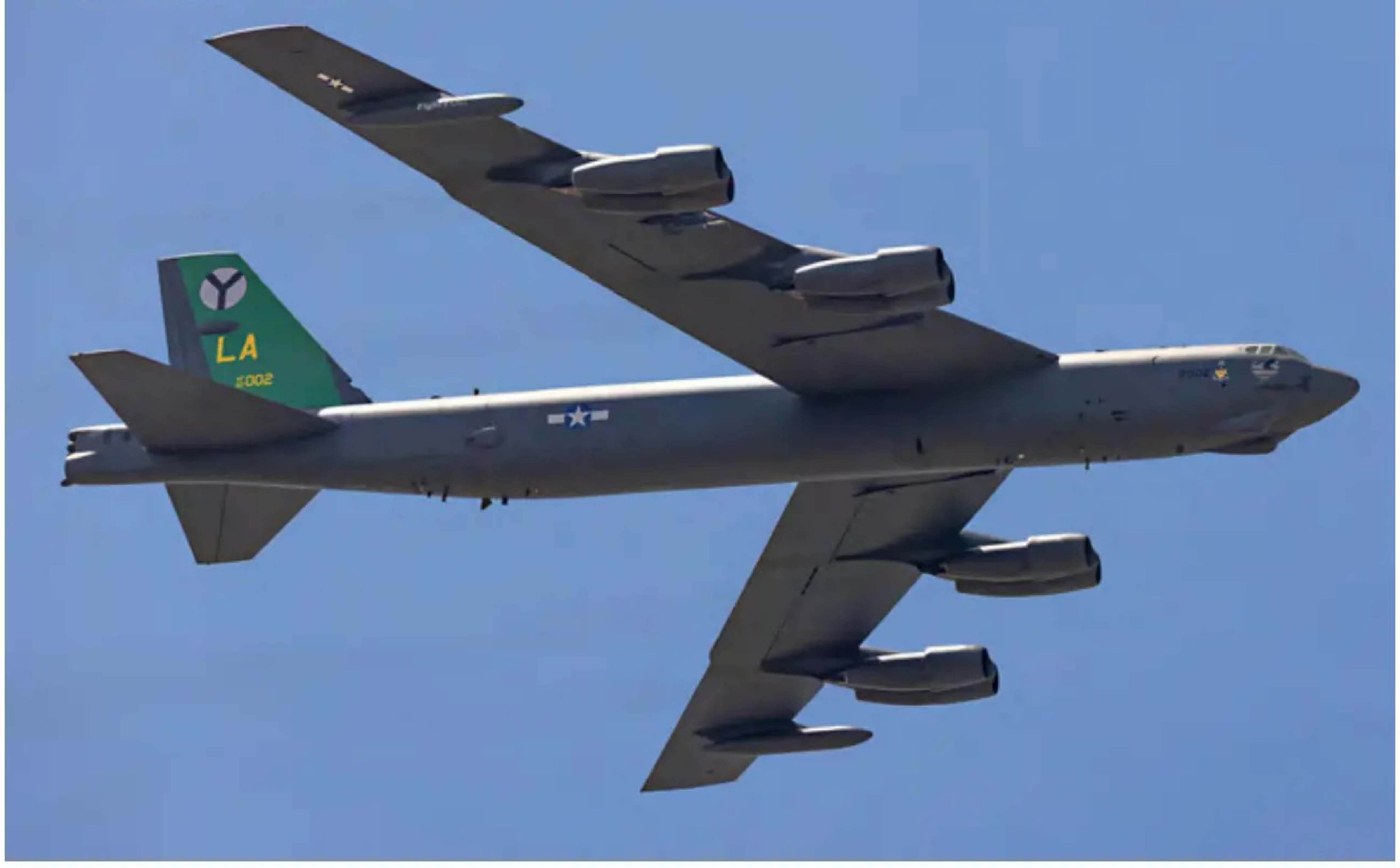
THE FIRST Airbus A330 multi-role tanker transport (MRTT) for the Spanish Air and Space Force entered service with the 45th Wing on April 11. The first of three acquired by the Spanish defence ministry in November 2021, it will operate from Torrejón de Ardoz Air Base, Madrid, after being delivered from the Airbus facilities in Getafe, where the A330 MRTT conversion centre is based.

Jean-Brice Dumont, head of air power at Airbus Defence and Space, said: “The MRTT will not only provide interoperability with allied nations and strategic autonomy, but will also significantly increase projection, aerial evacuation and in-flight refuelling capabilities.”

The second and third Spanish A330 MRTTs are undergoing conversion at Getafe. The 45th Wing of the Spanish Air and Space Force has so far used these unconverted A330s to transport military personnel and equipment, such as for the Pacific Skies exercise in 2024 and the evacuation of Spanish nationals from Niger and Sudan.

New Tail for BUFF

The 2nd Bomb Wing's flagship B-52H, serial number 60-0002, arrives at Altus AFB, OK in the overhead for the Altus AFB Airpower Stampede Open House and Airshow on 11 April 2025 for static display. The Barksdale AFB, LA-based aircraft has a newly painted Green tail with yellow lettering and the "Circle Y" which the 2nd Bomb Group in WWII used on their aircraft. the 97th BG from WWII used the "Triangle Y" on their aircraft and that group became the 97th AMW at Altus AFB, OK. Rob Stephens/Redhome Aviation



NEWS IN BRIEF

NORWAY COMPLETED its F-35 order as Lockheed Martin delivered the 51st and 52nd F-35As to the Royal Norwegian Air Force on April 1, making Norway the first F-35 partner nation to fulfil its programme of record.

The Scandinavian country opted to take the F-35 in 2008 and placed an order for its initial two aircraft in June 2012. The first was rolled out of Lockheed Martin’s factory in Fort Worth, Dallas, on September 22, 2015, and the first three RNoAF examples arrived in country in November 2017. It reached an initial operating capability with the RNoAF in November 2019.

THE FIRST A-10C **to be divested by the Maryland Air National Guard’s 175th Wing departed Warfield Air National Guard Base at Martin State Airport near Baltimore on March 26. In March 2024, the USAF announced plans to divest the wing’s A-10s and fully convert it to a cyber mission. Currently, the wing’s 175th Cyberspace Operations Group executes offensive and defensive operations. The A-10Cs are flown by the 104th Fighter Squadron, which reports to the wing’s 175th Operations Group.**

Retirement of the squadron’s remaining A-10Cs is scheduled to be complete by September this year. This will leave the Middle River base without a flying mission. Although it appears that the F-16C/Ds assigned to the District of Columbia Air National Guard’s 121st Fighter Squadron will be transferred to Maryland, they will likely be based at Andrews AFB outside Washington DC. The 104th FS has operated the Thunderbolt II since 1978 and has carried out nine combat deployments in the last 20 years.

MOROCCO COULD soon become the first Arab and African nation to acquire the Lockheed Martin F-35. The deal has been given the go-ahead by Israel, which exerts a big influence on Arab nations buying the advanced fighter. The deal is rumoured to be for 32 aircraft for $17bn spread over 45 years, including procurement and maintenance costs.

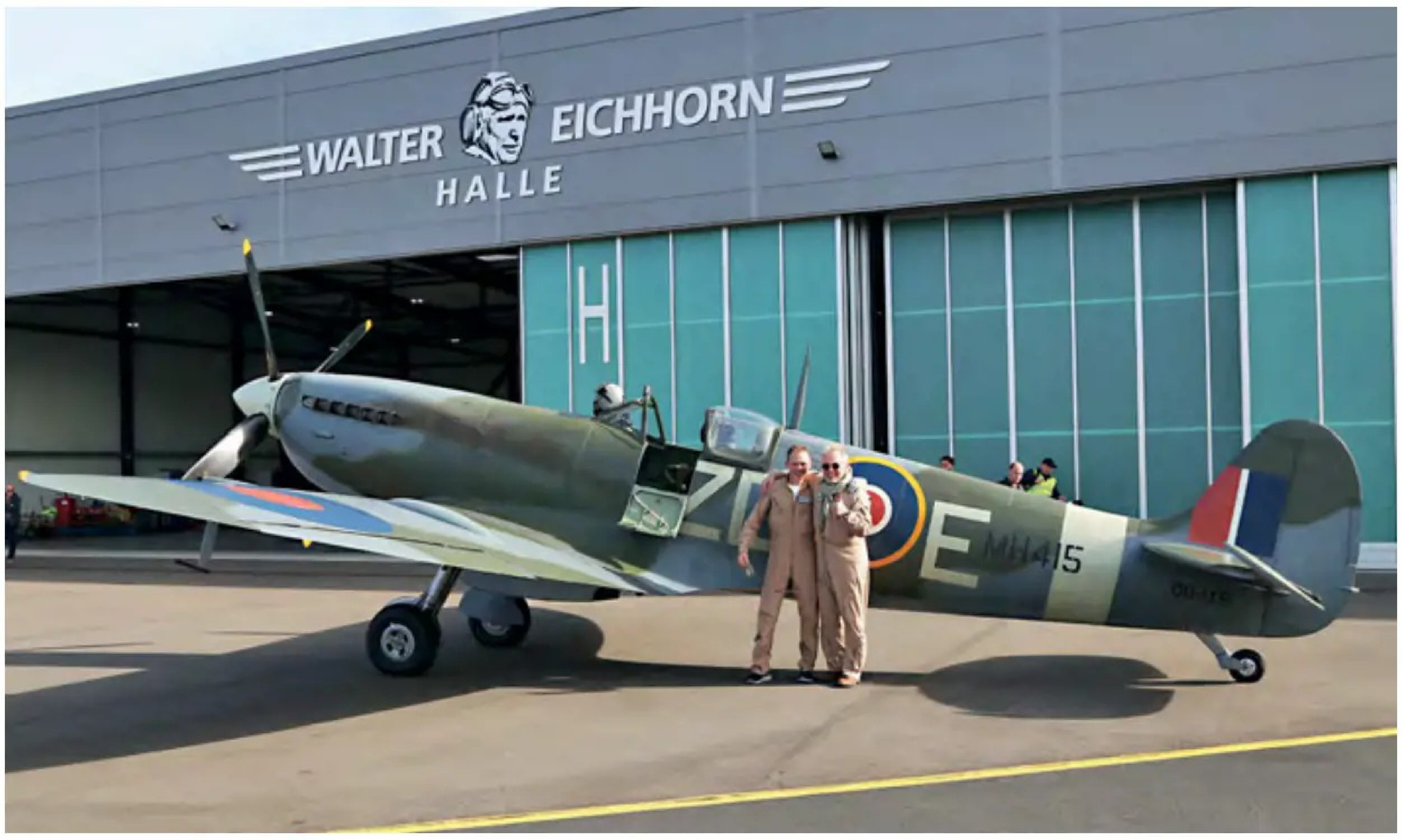
Sources at IDEX 25 in February indicated that the return of President Donald Trump for a second term could see unfinished F-35 business from his first four years in office finally being given the green light. Lockheed Martin representatives at IDEX allegedly provided an in-depth briefing to a Moroccan military delegation on the fifth-generation jet’s features. From Morocco’s perspective, it would mark a huge leap in capability, even if it didn’t happen until 2035.

Spitfire finds new home in Germany

SUPERMARINE SPITFIRE Mk.IXb MH415 has been delivered to the Siegerland-based Flying Legends Collection.

On March 21, Frédéric Vormezeele of Belgium's FAST Aero flew MH415 (registered OO-IXB) to its new home. The Flying Legends Collection's Georg Raab escorted the new arrival to its destination at the controls of Vought Corsair D-FCOR.

Having flown in 1969 film *Battle of Britain*, MH415 was stored by 'Connie' Edwards in Texas, and later restored to fly in Australia. It flew in the UK from April 2021 as G-AVDJ, before being listed for sale last year. Georg has also acquired Hispano Buchón OO-MAF which also appeared in *Battle of Britain*. It's currently being restored by FAST Aero. Stefan Schmoll



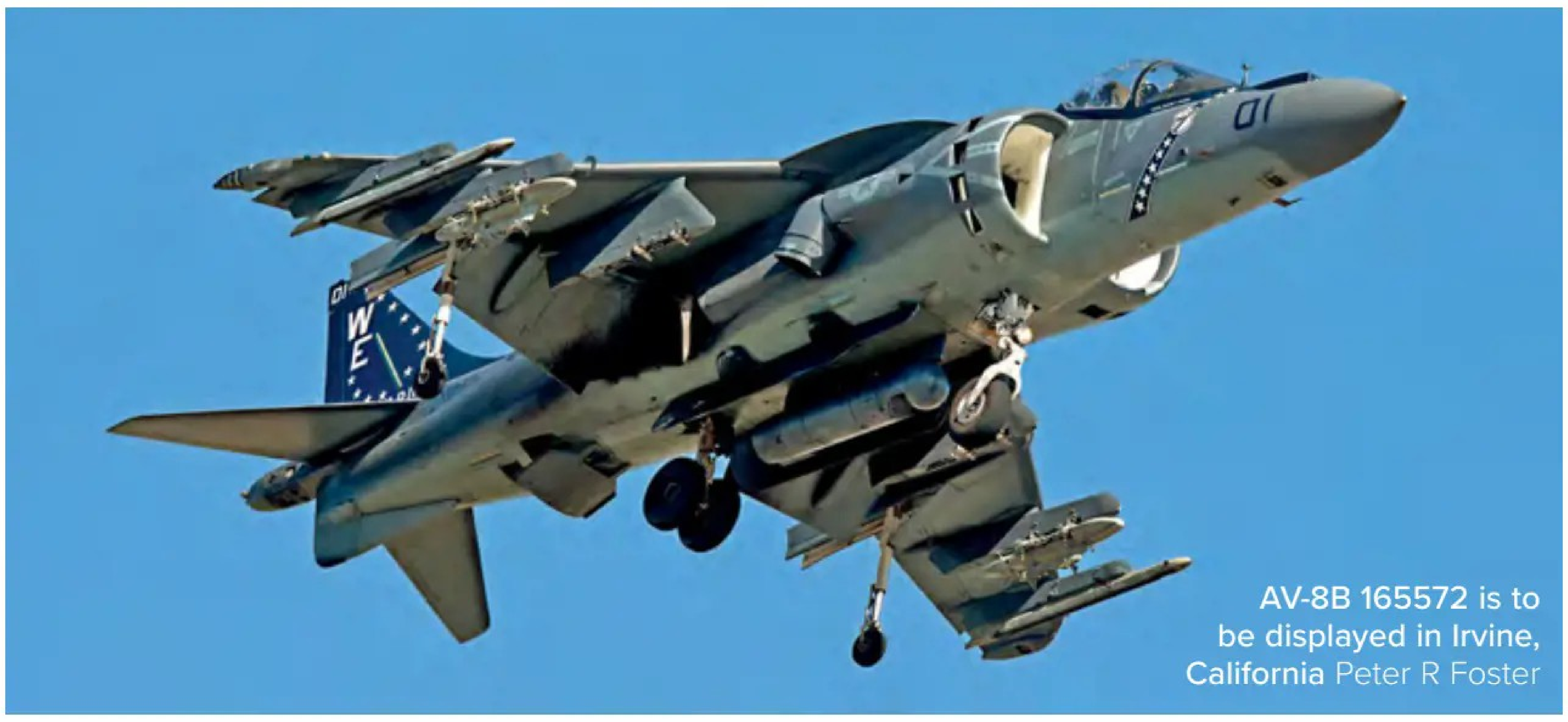
Frédéric Vormezeele (left) with Georg Raab and MH415 on March 21 Stefan Schmoll

War veteran Harrier retired to US museum

THE FLYING Leatherneck Aviation Museum, currently preparing to reopen in Irvine, California, has secured former USMC BAe Systems AV-8B Harrier II BuNo 165572.

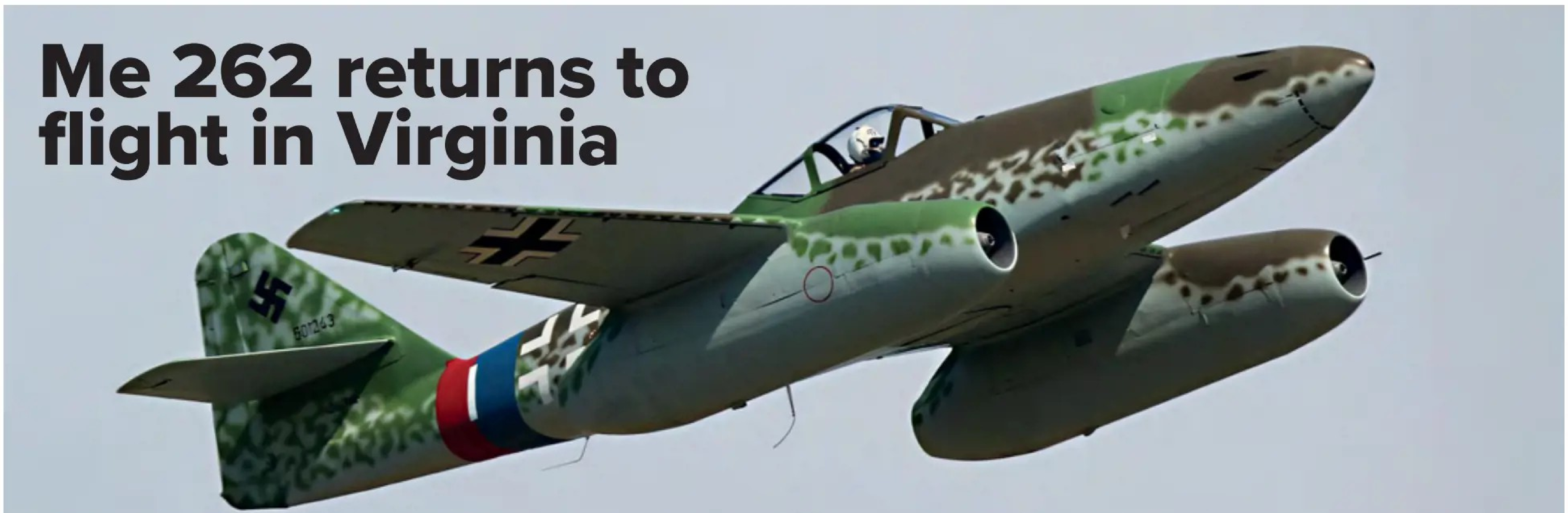
The jet has flown 1,549 combat hours – the most of any Harrier still in the inventory – and has served in both Iraq and Afghanistan. On September 14, 2012, it was one of two VMA-211 jets away on a mission when Taliban forces infiltrated Camp Bastion, Afghanistan, where they destroyed the squadron's remaining six Harriers.

Its entry into preservation follows AV-8B 165574 arriving at Pima Air and Space Museum in Tucson, Arizona – it's on loan from Pensacola, Florida's National Naval Aviation Museum. Having served with five units, its deployments include Operations Iraqi Freedom and Enduring Freedom. The jet was flown by Maj Robert 'Robin' Weede from El Centro, California to Davis-Monthan, Arizona on February 12. A third AV-8B, 164560, reached North Carolina's Hickory Aviation Museum last July. **Peter R Foster**



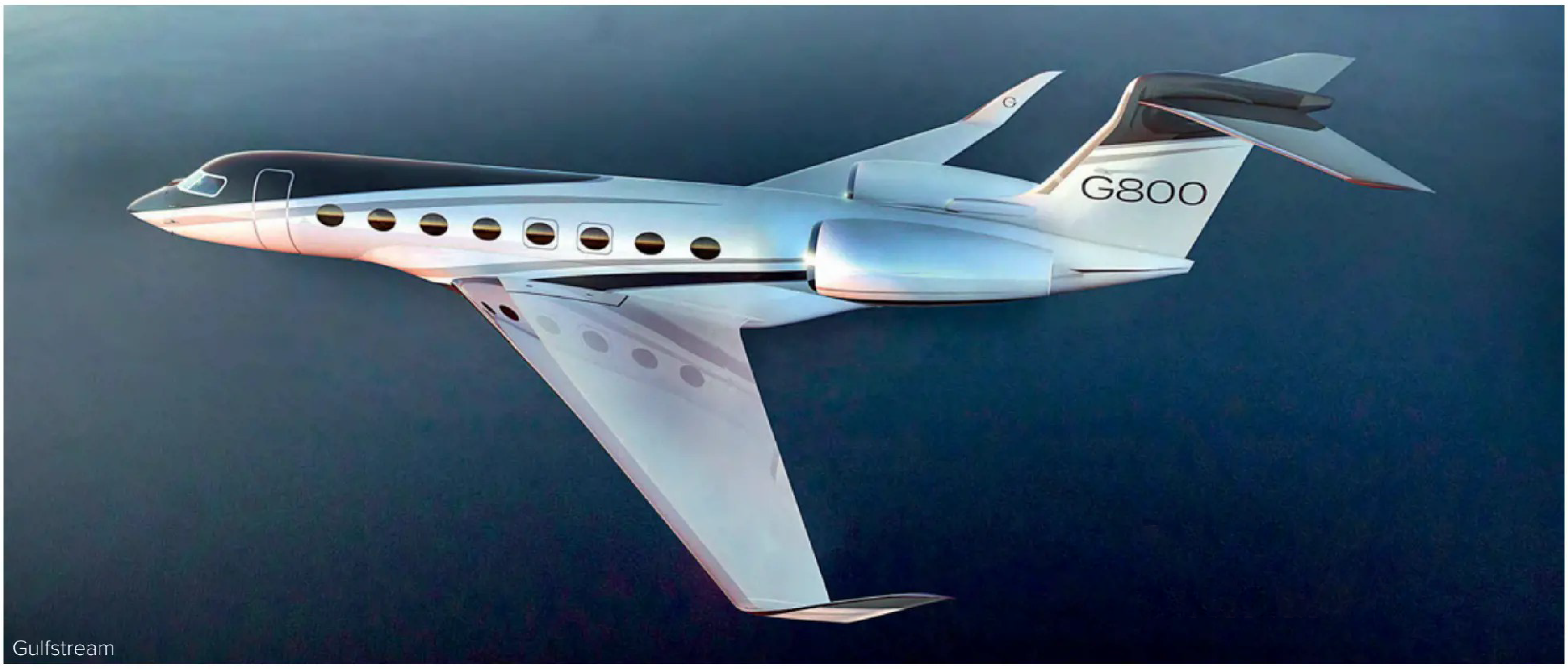
AV-8B 165572 is to be displayed in Irvine, California Peter R Foster

Me 262 returns to flight in Virginia



The Military Aviation Museum's Messerschmitt Me 262 reproduction made its first flight in over a decade on March 28, with the Virginia attraction's chief pilot Mike Spalding at the controls. The unmistakeable jet was airborne for half an hour before returning to Suffolk Executive Airport. MAM hopes to send the aircraft to EAA AirVenture Oshkosh in July Photo-Zack Baughman

Certification for G800



Gulfstream

GULFSTREAM'S NEW flagship, the G800, was awarded its FAA and EASA certification on April 16, 2025. It joins the shorter range G500, G600 and G700 in the Gulfstream product line.

The G800 can carry up to 15 passengers, with sleeping for seven, along with a crew rest area. It has the longest range of any current business jet at 8,200nm flown at Mach 0.85. At high-speed cruise, it can link London with Hong Kong or Los Angeles non-stop.

The prototype, N800G, has been under development since its first flight on February 28, 2022 and the Gulfstream factory has already completed ten aircraft to meet a substantial order backlog. Gulfstream has been experiencing high demand for its large-cabin executive jets due to the recent extensive model updating, with deliveries in 2024 totalling 118 compared with 89 the previous year. However, only 18 of the smaller Gulfstream 280s were sold amid heavy competition from Textron and Embraer's four mid-sized models, so the future of this product may be in question.

One step closer for Electra

Electra

US MANUFACTURER Electra Aviation has announced major new investment of $115m towards development and production of the EL9 Ultra Short hybrid-electric commuter aircraft. Led by Prysm Capital, this investment will allow Electra to move into the pre-production and certification of the aircraft. Electra claims it has more than 2,200 pre-orders valued over $10bn for the EL9 and is also attracting interest in the aircraft for military applications.

The EL9 would allow commercial operators to connect communities that lack traditional aviation infrastructure, flying into airfields that have strict noise regulations, saving customers on travel time and also creating new opportunities and business models for cargo services. For defence operators, the EL9 introduces novel logistics and troop transport capabilities, including the ability to operate within helicopter-sized remote/austere areas with a low signature, as well as providing safety, cost and range advantages over fixed-wing aircraft.

The nine-passenger EL9 is a hybrid-electric aircraft with eight propeller units which uses blown lift and hybrid-electric propulsion to take off and land in 150ft. It has an in-flight battery recharging system that eliminates the need for ground charging stations. This offers an opportunity for operation from non-airport locations and it has a range up to 1,100nm and a 3000 lb payload. The company has already built and flown a reduced-scale technology demonstrator, the Ultra Short (registered N301EL), and has demonstrated the concept to the US Army and US Marines.

Electra CEO Marc Allen commented: "At Electra, we are on a mission to deliver a new era of aviation, a leap forward in advanced air mobility that is both transformational and practical. The EL9 Ultra Short opens the door to opportunities to establish new commercial routes, connect communities currently lacking aviation infrastructure and enable entirely novel logistics capabilities for war fighters. We look forward to working with our partners at Prysm to continue the development of this aircraft and chart a new course for aviation."

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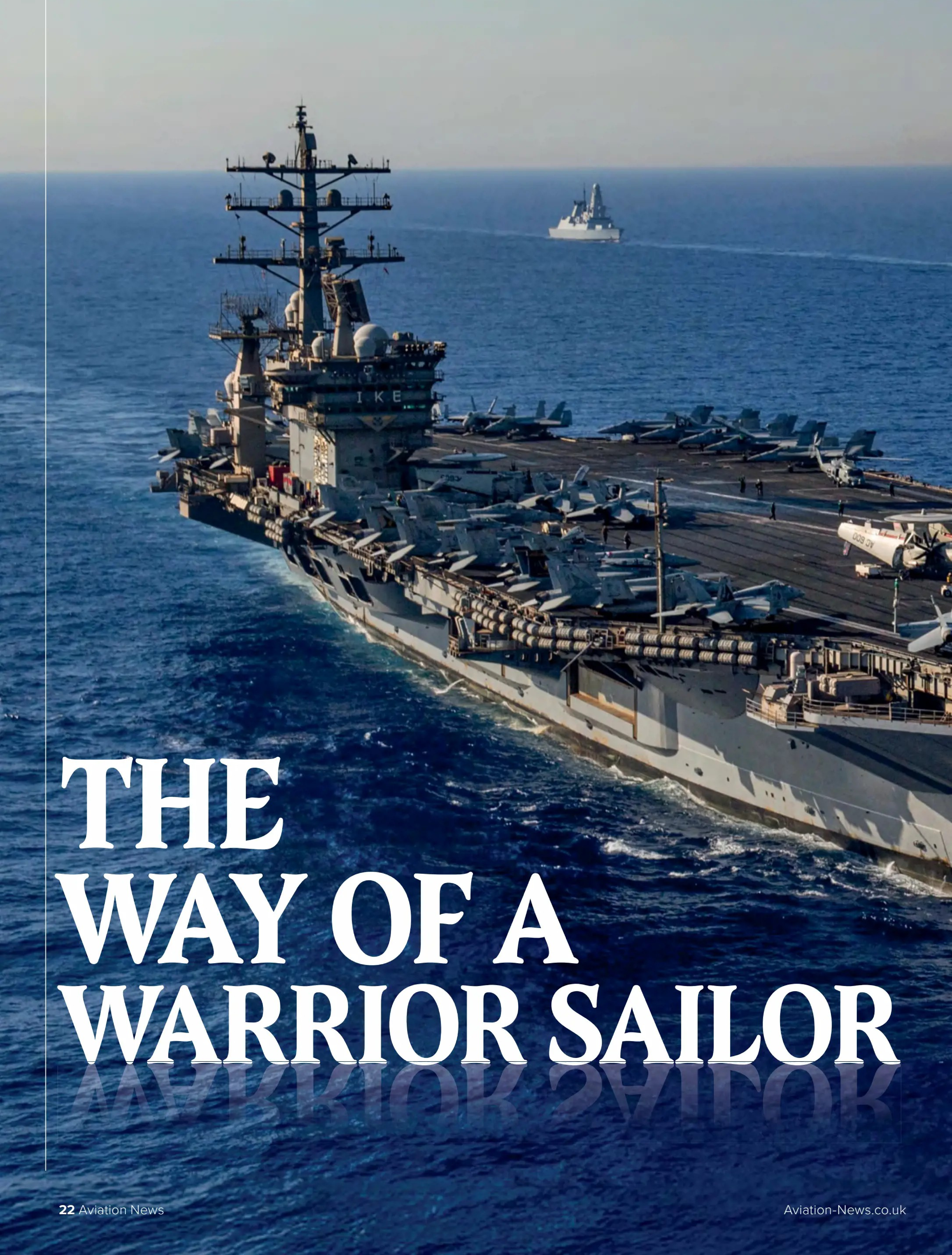

THE WAY OF A WARRIOR SAILOR

Aviation News interviewed Captain Chris ‘Chowdah’ Hill of the US Navy when he was commanding the USS *Dwight D Eisenhower* (CVN-69) and had just returned from a rather headline-worthy deployment.

▲ A external view of the USS *Dwight D Eisenhower* (CVN-69) as it steams in formation ahead of the Ticonderoga-class guided-missile cruiser USS *Philippine Sea* (CG 58) and beside the Harpers Ferry-class dock-landing ship USS *Oak Hill* (LSD 51) and Royal Navy Daring-class air-defence destroyer HMS *Duncan* (D 37) in the Mediterranean Sea, June 30, 2024 US Navy photo / Mass Communication Specialist 2nd Class Merissa Daley

◀ Portrait of Capt Christopher ‘Chowdah’ Hill Capt Hill

▶ Liberty Bells circa 2008. “We were based in Japan and I had hair. I learned a hell of a lot about leadership from Skipper May.” Capt Hill

▶ Prior to serving as CO of CVN-69, ‘Chowdah’ was the CO of the San Antonio-class amphibious transport dock ship USS *Arlington* (LPD 24). Seen here while the *Arlington* is conducting an integrated training event known as The Final Battle Problem US Navy / Mass Communication Specialist 2nd Class John D Bellino

During an historic deployment, the USS *Dwight D Eisenhower* (CVN-69) spent 275 days at sea, conducted more than 30 replenishments, sailed 75,000+ miles, on-loaded some 23 million gallons of fuel and executed the launch and recovery of 13,8000 sorties, accumulating more than 31,400 flight hours. The operations were engaging dozens of Houthis’ one-way attack UAVs, unmanned surface vehicles (USVs) and unmanned underwater vehicles (UUVs).

The Ike Carrier Strike Group (IKECSG) was commanded by Carrier Strike Group 2 and comprised flagship aircraft carrier CVN-69; guided-missile cruiser USS *Philippine Sea* (CG 58); guided-missile destroyers USS *Mason* (DDG 87) and USS *Gravely* (DDG 107) of Destroyer Squadron (DESRON) 22; Carrier Air Wing (CVW) 3; and the Information Warfare Commander.

Squadrons of CVW 3 include the ‘Gunslingers’ of Strike Fighter Squadron VFA-105; the ‘Fighting Swordsmen’ of Strike Fighter Squadron VFA-32; ‘Rampagers’ of Strike Fighter Squadron VFA-83; ‘Wildcats’ of Strike Fighter Squadron VFA-131; ‘Screwtops’ of Carrier Airborne Early Warning

▼ IKECSG is deployed to the US Fifth Fleet area of operations to help ensure maritime security and stability in the Middle East region US Navy / Mass Communication Specialist 2nd Class Keith Nowak

Squadron VAW-123; 'Zappers' of Electronic Attack Squadron VAQ-130; 'Dusty Dogs' of Helicopter Sea Combat Squadron HSC-7; 'Swamp Foxes' of Helicopter Maritime Strike Squadron HSM-74; and the 'Rawhides' of Fleet Logistics Support Squadron VRC-40. Now, let's talk to the commanding officer who was leading the way aboard the 'Ike' *Eisenhower*.

Q The first question is, what made you want to join the US Navy?

My dad was an enlisted Aviation Boatswain's Mate (Equipment) working catapults on the USS *Kitty Hawk* aircraft carrier while deployed to the Gulf of Tonkin during the Vietnam War. I was born soon thereafter and listened to all his sea stories. Later, as a boy, I wore all his old uniforms and pretty much destroyed them. By high school, I decided I wanted to wear the uniform officially and serve my country as a naval officer.

Q How did you gain the callsign 'Chowdah'?

Right around the time I joined my first operational fleet squadron, there was a *Simpsons* [television] episode where the term 'Chowdah' was expressed by a character with a Boston accent. I still had a strong accent at that time, so 'Chowdah' was bestowed upon me. There were much worse options out there, so I embraced it!

▲ **In March 2023, Christopher Hill relieved Capt Paul Campagna as the 20th commanding officer of IKE** US Navy / Mass Communication Specialist 2nd Class Jacob Hilgendorf

Q Explain your time at flight school – what aircraft did you fly and when did you gain your wings?

Coming out of Navy ROTC [Reserves Officer Training Corps] at Tufts University [in Massachusetts], I decided I wanted to have a career in intelligence. During selection time, the navy decided it needed more unrestricted line officers, so they took away the intelligence option and I reluctantly chose to be a naval flight officer (NFO). I couldn't go to pilot due to bad near-sightedness and laser surgery was not permitted at that time. This was probably the best decision ever made for me.

Flight School in Pensacola [Florida] was incredible. I didn't appreciate it at the time because I was so laser-focused on doing well and not throwing up on my first few flights in the T-34 training aircraft. I never vomited – in fact, I never puked in any aircraft thereafter, thank goodness. Nausea and cold sweats? Yes.

Those first several flights involved aerobatics, stalls, recoveries, field work and basic navigation. I would set up a fake airfield in my living room and physically walk the pattern over and over, doing my procedures and practising communications.

For the intermediate phase they put us through the T-1, on loan from the US Air Force, and we practised low-level navigation all over the Florida panhandle. On one mission, we got a little lost because neither the instructor nor I could find one of the visual waypoints, so instead the instructor decided to have us fly over his house to see – according to him – if another man was visiting his wife while he was at work. I think he was joking, but I never asked.

▼ **CVN-69 conducts flight operations in response to increased Iranian-backed Houthi malign behaviour in the Red Sea** US Navy

▲ Sailors work on the flight deck aboard the Nimitz-class aircraft carrier USS Dwight D Eisenhower (CVN-69) in the Red Sea US Navy

For my fleet preferences, I put the F-14 Tomcat as number one, and the E-2C Hawkeye as number two. I wanted to be in Virginia because it was closer to my homeland in the Boston area. In any case, I ended up with the E-2C Hawkeye because the top of the class took the F-14 slot, and I was probably number two or three. Needs of the navy applies!

Flight School advanced phase for the E-2C Hawkeye was in Norfolk, Virginia, so I earned my NFO wings of gold after completing that training in 1997.

I flew the E-2C Hawkeye for most of 20 years. In between, I did three years as a TOPGUN instructor at the Navy Fighter Weapons School in Fallon, Nevada. While there I got to fly back seat in a number of FA-18 variants and even in the back of an F-16, which we used as an adversary jet. I never really gained any meaningful proficiency in fighter jets, but I think I was pretty good at maintaining eye contact in dog-fighting scenarios.

Q How many hours, and how many traps do you have on the Hawkeye? Where has it taken you?

I have roughly 2,700 hours in the Hawkeye. I have not done a good job of counting traps, but I suspect, more than 600 traps. I did not have to fly those passes, but I was hyper-focused from the back-end of the aircraft watching speed and altitude and calling deviations to the two pilots. I have flown for Airborne Command and Control Squadron (VAW) 126 [‘Seahawks’], VAW-124 [‘Bear Aces’], and VAW-115 [‘Liberty Bells’]. I later went back to the Bear Aces and was the commanding officer from 2012-2014.

I have mostly flown combat missions in Iraq from 1998-2001 and later in 2014. I did a brief stint flying in Afghanistan in 2014 as well. While I was in VAW-115, I flew throughout the Western Pacific during our patrols there. I even flew missions in Bosnia in 1999, but I barely remember what we did.

Q What do you like the most about the Hawkeye?

The Hawkeye is quintessential to naval combat. It is the eyes and ears of the fleet, providing command and control for the air fight, as well as significant situational awareness back to navy warships. With the introduction of the E-2D variant, the Hawkeye now greatly extends the defensive shield provided by US Navy destroyers in ways we have not seen before. Bottom line: No fight goes well without a Hawkeye airborne.

Q Do you still fly the Hawkeye regularly?

During the last deployment from 2023 to 2024 aboard CVN-69, I flew most Fridays with VAW-123 [‘Screwtops’] and directly participated in combat operations in the Red Sea. Friday was my morale day!

Q How does a Hawkeye aircraft and its main mission as an AEW/C2 aircraft provide you skills to become an aircraft carrier captain?

In the Hawkeye you get crushed with information and must manage it all and then push curated information back to fighter aircraft or the theatre commander so they can all do their mission. As an aircraft carrier commanding officer, I get a lot of the same chaos on a day-to-day mission. We are always fighting some battle, whether it is responding to a casualty, solving some systemic personnel problem, or getting a deluge of information at meetings!

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SAFETY

▼ An E/A-18G Growler, attached to the ‘Zappers’ of Electronic Attack Squadron (VAQ) 130, launches off the flight deck of the Nimitz-class aircraft carrier USS *Dwight D Eisenhower* (CVN-69) in the Red Sea US Navy

▲ An aviation ordnanceman secures ordnance on an F/A-18E Super Hornet, attached to the 'Wildcats' of VFA- 131 US Navy

Q Could you explain the path on becoming a nuclear-class aircraft carrier commander?

The Aviator Nuke path (or 'AVN' path as we call it) starts after a successful tour as the commanding officer of a carrier-based aviation squadron. Assuming your college grades in physics and calculus were a 'C' or greater average, you are now eligible for selection as an AVN. Once selected, you are given orders to Naval Nuclear Power Training Command, selectees commence six months of gruelling academics and testing to qualify to continue on to 'prototype'. At the age of 42, I was sitting alongside classmates who were straight out of college and selected as submariners, as well as junior surface warfare officers who completed one operational tour on a ship. They showed me how to operate a calculator!

At prototype, you spend another six months learning to manage and operate an actual nuclear reactor, and you're tested to become a qualified engineering officer of the watch.

After that, you go to Naval Reactors at the Washington Navy Yard for about three months where you qualify on the nuclear plant relevant to your next ship, where you will serve as the executive officer (XO, second in command). I served a tour on the USS *George H W Bush* as the XO.

After a successful tour as a carrier XO, you go to a medium-sized ship to be the commanding officer. I went to the USS *Arlington*, LPD 24, which had a crew of about 400 sailors and the capacity to hold 600 marines, two LCACs (hover craft) and several helicopters.

If you're successful there, you can be selected to command a Nimitz or Ford-class aircraft carrier. By statute, the commanding officer of an aircraft carrier must be a naval aviator or naval flight officer with previous experience operating off aircraft carriers.

Q When did you take command of CVN-69 and how long is the term?

I assumed command of the USS *Dwight D Eisenhower* CVN-69 in March of 2023. Typical tours are two to three years in length. After several months of work-ups, where we frequently go to sea anywhere from two to six weeks at a time to certify for deployment, the IKE deployed on October 14, 2023, one week after Hamas invaded Israel and killed 1,200 civilians (including 40 Americans) and took more than 250 people hostage.

Q What was it like deploying to fifth fleet in these current times? Did you head into any other AOR during the deployment?

At first, we were given orders to make best speed to the Eastern Mediterranean and to link up with the USS *Gerald R Ford,* which was nearing the end of her nine-month deployment. In November 2023, we were directed into the Middle East to support Fifth Fleet objectives there. We spent about three weeks in the Persian Gulf launching aircraft into Iraq to support troops on the ground there in the fight against remaining ISIS elements (Operation Inherent Resolve), while acting as a deterrent against Iran to prevent them from getting directly involved in the Hamas fight.

We were pulled out of the Persian Gulf as the Houthis in Yemen commenced a campaign of targeting civilian merchant vessels in an attempt to shut down the Strait of Bab al-Mandeb, a key choke point in that region that impacts global trade. By December 31, 2023, we were directed into the Red Sea with a mission to degrade Houthi capabilities and to protect civilian merchant ships. I regularly told the crew of 5,000 sailors that our main mission was to simply save lives.

► A live AGM-88 HARM (High-speed Anti-Radiation Missile) is attached and quality-checked prior to take-off on the flight deck of CVN-69 US Navy

IKE
200
EXPLOSIVE

▼ Aviation ordnancemen prepare to load ordnance on to an F/A-18E Super Hornet, attached to the 'Rampagers' of Strike Fighter Squadron (VFA) 83 US Navy

▲ **A VFA-105 F/A-18E playing the tanker role launches in full afterburner from one of the catapults aboard CVN-69, as the ship conducts flight operations in response to increased Iranian-backed Houthi malign behaviour in the Red Sea** US Navy Mass Communication Specialist 3rd Class Janae Chambers

Q What happened in the Red Sea?

We operated as Carrier Strike Group 2, which consisted of four destroyers, one cruiser, the 70-aircraft air wing (CVW-3) and my ship. Altogether, we shot down more than 100 large, weaponised, one-way attack drones and a few dozen anti-ship ballistic and cruise missiles. We also destroyed a few dozen Houthi small boats, several of which were remotely operated with warheads in their hulls. As far as land targets, we destroyed more than 400 targets (via Tomahawks and various GBUs and Hellfire missiles), all of which presented a direct threat to civilian and coalition vessels in that region.

The FA-18s of CVW-3, and in one case the EA-18G, with the support of the E-2C Hawkeye, shot down nearly half of the total drones with a variety of air-to-air missiles.

While an aircraft carrier carries dozens of missiles for self-defence, we did not have to employ any of them. Our main missile battery is the ability to launch aircraft with our four catapults to destroy threats before they become a factor to the strike group ships. To assist in that endeavour, the IKE launched more than 150 alert aircraft outside our normal flight operations windows, which was 12 hours a day, six days a week.

One of the major enabling factors that allows an aircraft carrier to respond so quickly is that we have an intelligence operations centre on the ship with dozens of sailors working around the clock to identify threats early and often.

Q How was the atmosphere on the boat during the time in the Red Sea?

The challenge for leaders on the ship was maintaining morale. The conditions there were not pleasant – it was hot and humid – and our 47-year old ship was not necessarily designed to operate in these hotter environments. Plus, sailors did not get a single day to rest for seven months straight, due to lack of port calls and the need to keep fighting. We gave the sailors two short port calls to Greece towards the very end of the nine-month deployment.

Still, most sailors were very proud to be participating in a meaningful operation. Leaders across the ship fought to keep minds in the game and to promote positivity, reminding them that they were involved in the most complex US Navy operation since World War Two and were saving real lives. If that doesn't motivate someone, I don't know what will.

It also helped to have limited Wi-Fi on the ship to allow sailors to connect back home on demand. We also had our own USO centre where sailors could relax or play video games and get a snack. We experienced more than 3,000 visits per week at that centre. Our small morale, welfare, recreation (MWR) division hosted nearly 700 events to give sailors something different to do during their limited free time. We even had a dog – Captain Demo – who patrolled around the ship with his handler to help improve mood and lower stress. He ended up becoming my little friend and I gave him snacks whenever I saw him. Turns out, several dozen other sailors were doing the same thing and Demo gained 15 pounds by the end of that deployment! The lesson learned: Dogs are awesome, but they will trick you into believing you're their very best friend in the world! All joking aside, Demo was a great addition to the crew and made a difference in terms of improved moods and stress relief.

As Dwight D 'Ike' Eisenhower said in 1948 –'Morale is the greatest single factor in successful war' – I think the USS *Dwight D Eisenhower* validated that hypothesis during her Red Sea deployment.

Q Can you explain any memorable/tense scenarios? Maybe the first night receiving orders to strike Yemen or the first night of shooting down Houthi attacks?

We participated in multiple large and small strike missions throughout our six months fighting in the Red Sea. From the carrier perspective and the fact that fuel is always scarce airborne, we had to ensure that all aircraft launched and recovered on time to prevent cascading fuel emergencies. We had a few hiccups there, as happens in combat, but we trained to events like these throughout our work-ups period

▼ **An aviation boatswainsmate (handling) taxis a heavily armed MH-60R Sea Hawk, attached to the 'Swamp Foxes' of HSM-74, aboard CVN-69** US Navy

AMBUSCH FLIGHT
HSM-74
700
RESCUE
INTAKE

and were able to solve every issue on the spot.

The Houthis also attempted multiple drone swarms against all our ships, which created some tense moments. I am quite happy to say that not a single sailor balked, curled up in a ball or froze in fear in these situations, as sometimes happens in real combat. In fact, there is a tendency for older generations to make claims about the work ethic and competency of younger generations, but if we train junior folks well and provide them good leadership, we will see these younger warriors consistently step up to the challenge even in the tensest of moments – regardless of generation.

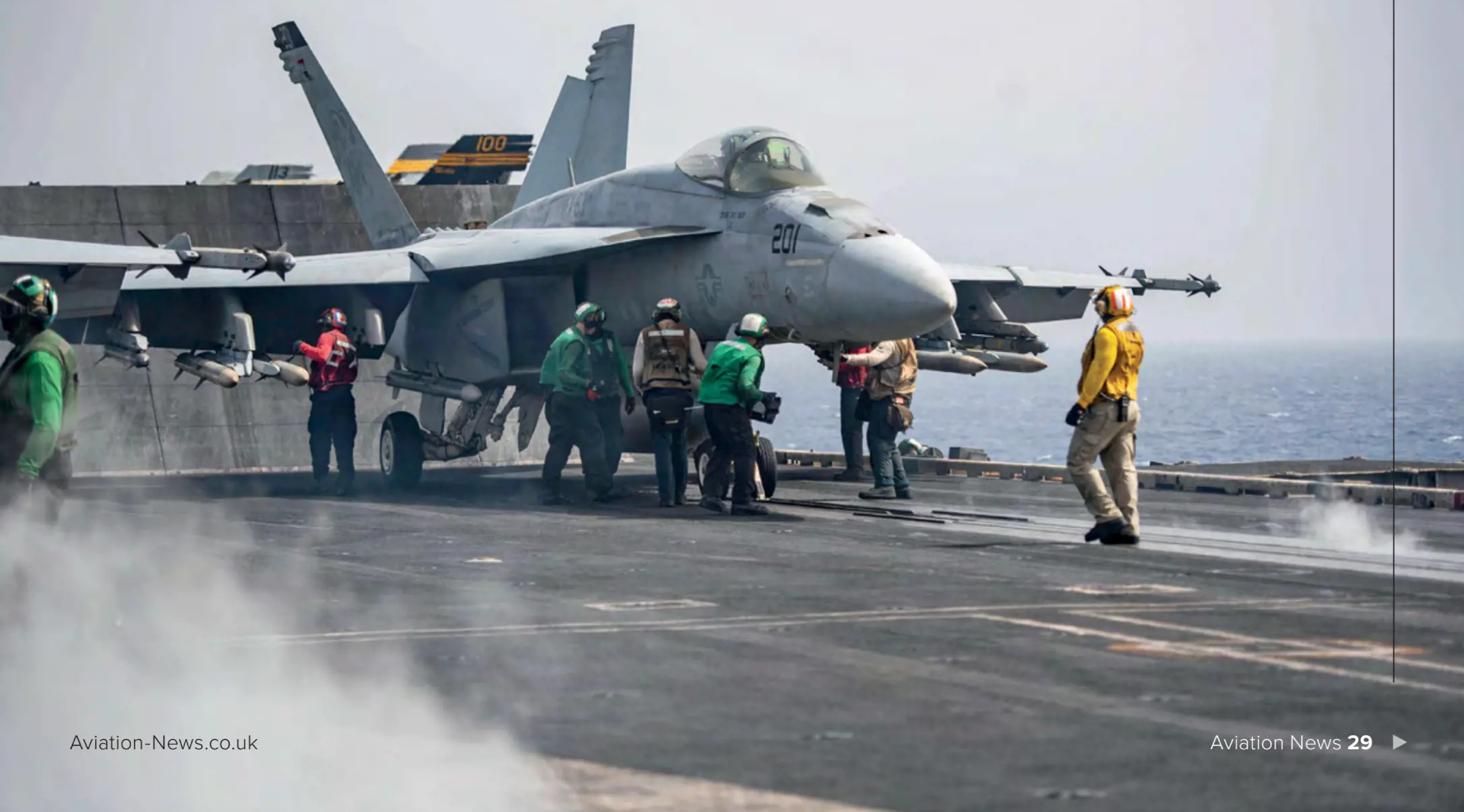
I am also happy to report that the Houthis did not even scratch a single ship during our entire time there.

Q Did you have to always command the ship, or did you perform any C2 missions embedded in the VAW unit aboard or AEW, as I can imagine the VAW unit was rather busy with monitoring the ship lanes/inbound drones and missiles?

As I mentioned, I flew with the VAW-123 'Screwtops' most Fridays while in the Red Sea. It was an honour to fly with them. Several of their junior officers had provided the control of fighter aircraft that resulted in drone shootdowns, to the point where it became habit. They also facilitated in the decision making for destroying dozens of pop-up targets in the combat zone, over land and at sea. They also put me to work and allowed me to control aircraft, which was incredible fun. On a few occasions, I had the opportunity to direct strikes against drones on the ground and surface-to-air missiles systems in accordance with the rules of engagement. My only issue is that they used a laptop to connect with the fleet and the font size was about one or two, so even with my reading glasses I had trouble relaying target co-ordinates! The 'Screwtops' had my back and made sure I didn't screw something up.

▶ An aviation structural mechanic (equipment) cleans an F/A-18E Super Hornet attached to the 'Wildcats' of VFA-131, which has clearly been busy doing the mission markings US Navy

▶ 'Chowdah' hosts Italian Navy Rear Adm Alberto Tarabotto, commander, 4th Naval Division, aboard CVN-69 during the deployment US Navy / Mass Communication Specialist 3rd Class Nicholas Rodriguez



▼ Sailors prepare an F/A-18E Super Hornet in the new air-to-air configuration, nicknamed 'Murder Hornet', loaded with five AIM-120 AMRAAM missiles and four AIM-9X Sidewinder missiles, attached to the 'Rampagers' of VFA-83 US Navy

▲ Sailors conduct preflight checks on an E-2C Hawkeye, attached to the 'Screwtops' of VAW- 123 US Navy

Who did CVN-69 work with outside of the CSG, such as different nations?

We had a number of coalition vessels come in and out of theatre during out time, including several NATO partners. Several sent delegations to my ship via helicopter, including the Italians, Germans, British, French, Danish and more. I struck up a good rapport with the commanding officer of the Royal Danish frigate *Iver Huitfeldt*. He noticed that I regularly posted on social media pictures of young sailors receiving fresh cookies. He started posting pictures of his sailors receiving black liquorice candy pipes, which is apparently a thing there. He sent me several of those, but it turns out, most American sailors don't have a taste for black liquorice.

What is running through a captain's mind when strikes are in preparation from the boat on behalf of CENTCOM?

During strikes, I am carefully monitoring the launch sequence plan and monitoring the time by the minute and second. If there is a hiccup in the plan, I can sometimes make a risk decision to allow continued operations. My tactical action officer is providing real-time threat updates. The air boss is in the tower one deck above the bridge (where I sit) and relays any aircraft launch and recovery system issues (ALRE).

Meanwhile, I am working with the officer of the deck and navigator to maintain our intended location and keep the ship properly pointed into the wind to facilitate all launches and recoveries in accordance with our procedures. Often, I'm directing course changes to avoid hitting any other vessels out there.

If there is a glitch in our propulsion or electrical power, I am on the phone with the chief engineer or reactor officer making additional risk decisions to ensure continuity of operations.

What's next for CVN-69?

The mighty IKE is going to be in the shipyard for another year into 2026. Our vision is to remain the 'best damn ship in the navy for two more deployments'. We will likely extend the ship's service life beyond 50 years before the next Ford-class carrier becomes available to replace us. As per legal statute, America is required to have 11 CVNs.

► VFA-131 F/A-18 Super Hornet loaded with air-to-air missiles gets ready to launch from CVN-69 US Navy

▼ CVN-69 sails in formation with the Italian aircraft carrier ITS Cavour (CVH 550) in the Red Sea US Navy

Q What was your most honourable moment as captain of the USS *Dwight D Eisenhower?*

I told the crew multiple times that our mission was to save lives of civilian mariners. Unfortunately, we don't often get to see the very lives we save, so it's a conceptual mission, not palpable. However in mid-June, the USS *Philippine Sea* rescued 24 mariners from the merchant vessel *Tudor* after it had been hit by an unmanned surface vessel with a warhead embedded in its hull. It hit the engine room and immediately killed one of the mariners. As the vessel was sinking, the USS *Philippine Sea* sent over its MH-60R from HSM-74 and rescued all the mariners. They brought them to the IKE while diplomatic efforts were spinning off ship to get these mariners back to the Philippines where they were all from.

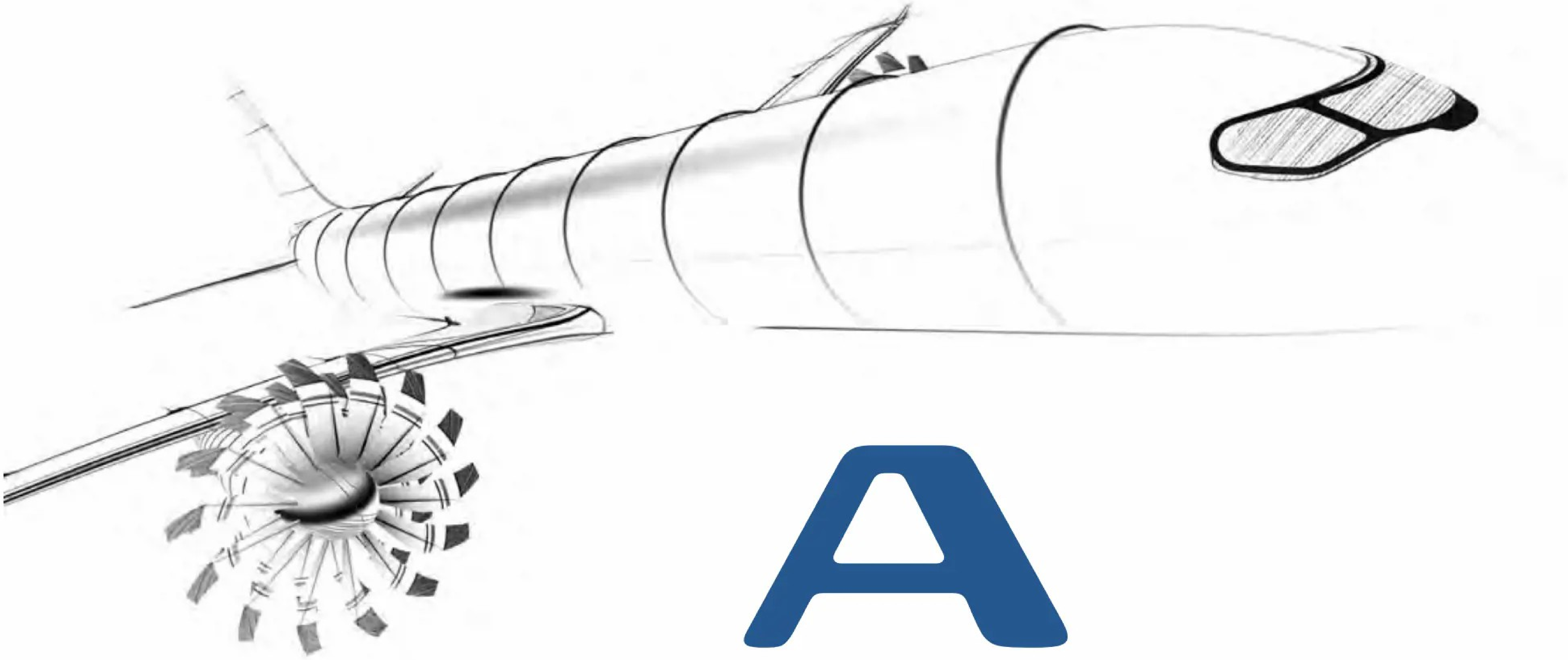
All 24 were sent to my ship until we could work the diplomatic side and get a C-2 Greyhound on board to fly them to Bahrain. I was busy with another mission and told my security professionals to "just take care of them". After a couple of hours, I decided to see how they were being treated, and as I approached the room where we kept all 24, I could hear singing in a foreign language. Turns out, one of my Tagalog-speaking sailors discovered what was going on and gathered up her fellow Filipino-American shipmates – 30 in total – and decided to swarm the mariners and make them feel at home. I walked in the room to see a buffet lunch set up for them, singing and all of our guests wearing CVN-69 ballcaps (no idea who paid for them). Everyone was smiling despite the tragedy earlier in the day.

I don't think I have ever been so proud of my sailors or the United States Navy until that day. It was also the first time we got to see the very faces of people that the United States Navy was there to save. AN

▲ **An F/A-18F taxies on the flight deck in front of the IKE bridge with mission markings from the deployment** US Navy

▲ An F/A-18E Super Hornet, attached to the 'Gunslingers' of Strike Fighter Squadron (VFA) 105, launches from the flight deck of CVN-69 in the Red Sea US Navy

▼ **The USS *Dwight D Eisenhower* returns to Naval Station Norfolk in July 2024** US Navy / Mass Communication Specialist 2nd Class Hunter Day



▲ The drawings of Airbus's Next-Generation Single-Aisle (NGSA) Airbus

A decade away

Airbus is fully committed to developing its next-generation, single-aisle and hydrogen aircraft for the 2030s. **Richard Schuurman** investigates what to expect

Amid the recent concerns from key aviation stakeholders like IATA, Airlines4Europe and regional airlines within ERA about meeting net-zero targets in 2050, Airbus remains fully committed to this plan. However, there are concerns that the production of sustainable aviation fuels (SAF) and hydrogen is lower and slower. Hence, the decision in Toulouse to delay entry into service of the ZEROe hydrogen airplane by five to ten years until 2040 or later.

Airbus CEO Guillaume Faury told *Aviation News* at the 2025 Airbus Summit in Toulouse, France, in late March: "We have an industry roadmap, which has been blessed by many stakeholders including states, and calls for carbon neutrality by 2050. We remain very committed to this and we need the airlines to get there, but we need the aviation industry to be more bullish about the transition from fossil fuels to SAFs.

"I respect it is a tough call for airlines now to adopt SAF because of the higher price and the fact they are not available at scale now. We need more support from investors and energy partners, regulators and countries. That's what we are advocating."

NGSA

Part of its own industry roadmap are two major projects Airbus has been working on for some time: the hydrogen ZEROe airplane, since 2020, and the next-generation, single-aisle (NGSA), which Faury confirmed in April 2023. During the Summit, Airbus shared updates with the media, but both programmes are still very much work in progress.

Let's look at NGSA first. It will be the successor to the A320neo Family in the second half of the 2030s, although the head of the Aircraft of Tomorrow project, Karim Mokaddem, said it is too early to tell if NGSA will be a direct swap of the current neo family members like the A320neo and A321neo. The configuration, including the fuselage diameter, will be finalised at a later stage.

Bruno Fichefeux, head of Future Programmes at Airbus, said: "NGSA is in a research and technology phase in which we mature many technologies. When we combine them together, we need to look at what are the best trade-offs, which path we open, which one do we close and, step by step, come to the magic recipe that makes this fourth revolution of aviation possible. We are not there yet, we are not at the level of the recipe, we are at the level of the ingredients."

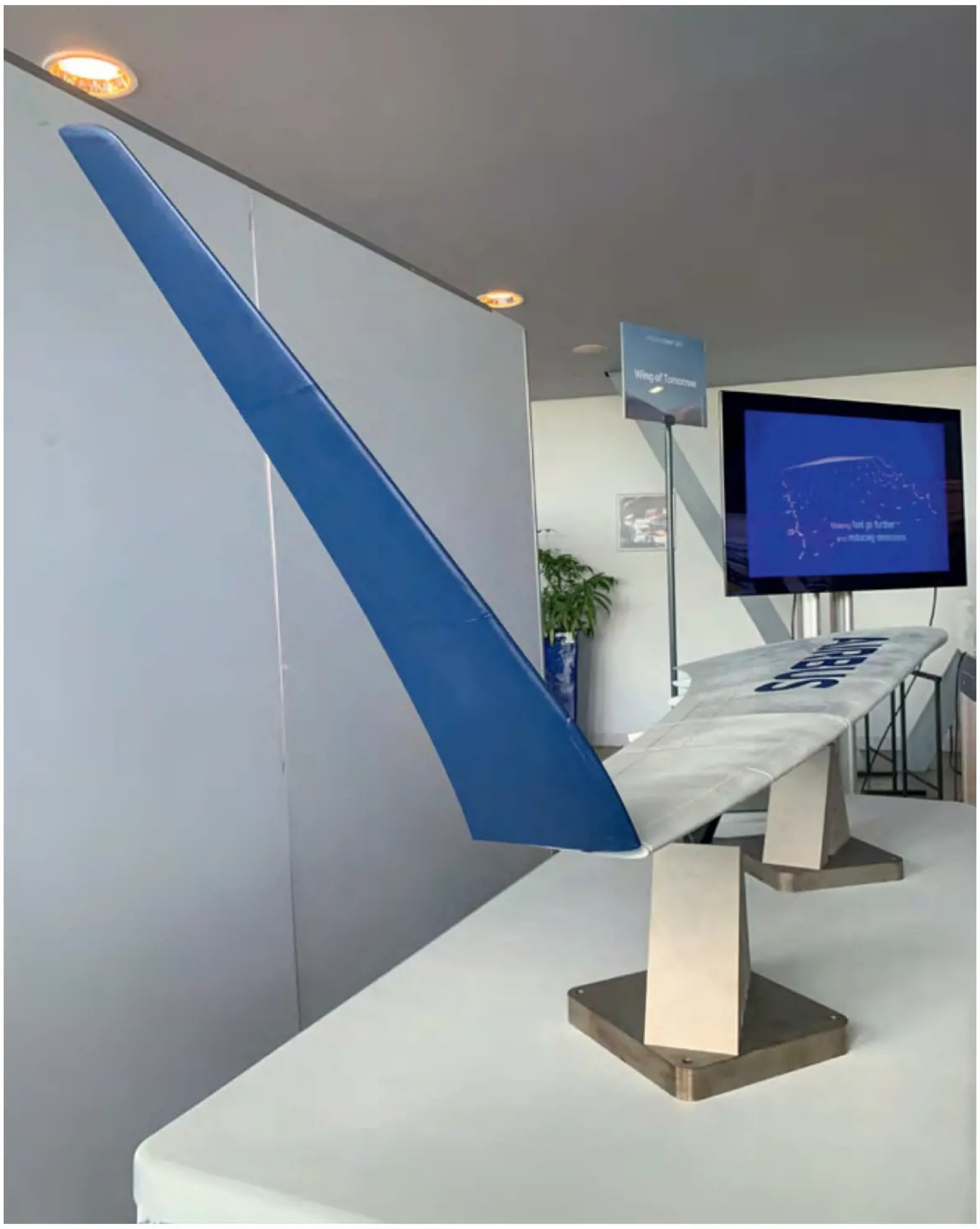
▶ Airbus vice-president of the ZEROe Aircraft, Glenn Llewellyn, speaking at the summit Airbus

Propulsion

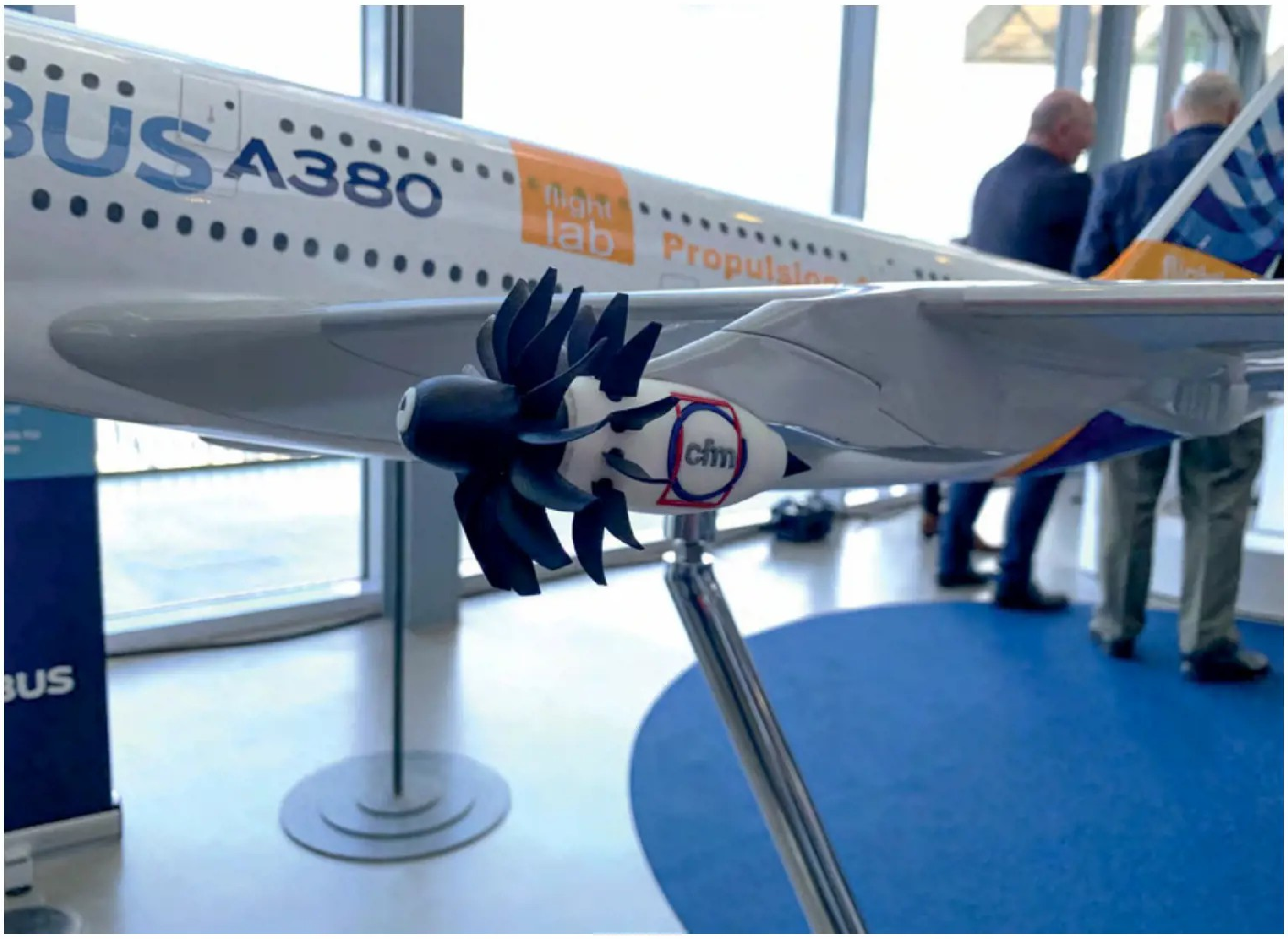
A key ingredient is a new propulsion system. By the looks and words at the Airbus Summit, the airframer seems very much committed to the open rotor concept that GE Aerospace and Safran are developing for CFM as the RISE demonstrator. Airbus could also go for a ducted fan concept, which might include a version of the Rolls-Royce UltraFan or next-generation Pratt & Whitney Geared Turbofan. Asked where the preference of Airbus lies, Christian Scherer, CEO of Commercial Aircraft at Airbus, said: “The jury is out. The overriding goal we pursue is product excellence. What form it takes remains to be seen. Today, we have a lot of hopes in the open fan, because it offers the prospect of lower fuel burn. But that doesn’t mean we are disregarding other choices. At the end of the day, it is product excellence that is going to commend the success in the market, not the dogmatic choice in itself.”

GE Aerospace’s chief technology and operations officer, Mohamed Ali, explained that a 20 per cent fuel burn reduction for the engine (or 20-25 per cent including the airframe) is impossible with a ducted fan because of the drag of the fan case: “There is a point not very far away from where we are today when it comes that the duct is so big that it wipes out any gains coming from making the fan bigger. That is at around a bypass ratio of 15 or 16. The open fan opens up the bypass ratio to 60, that is the fuel burn opportunity we are excited about.”

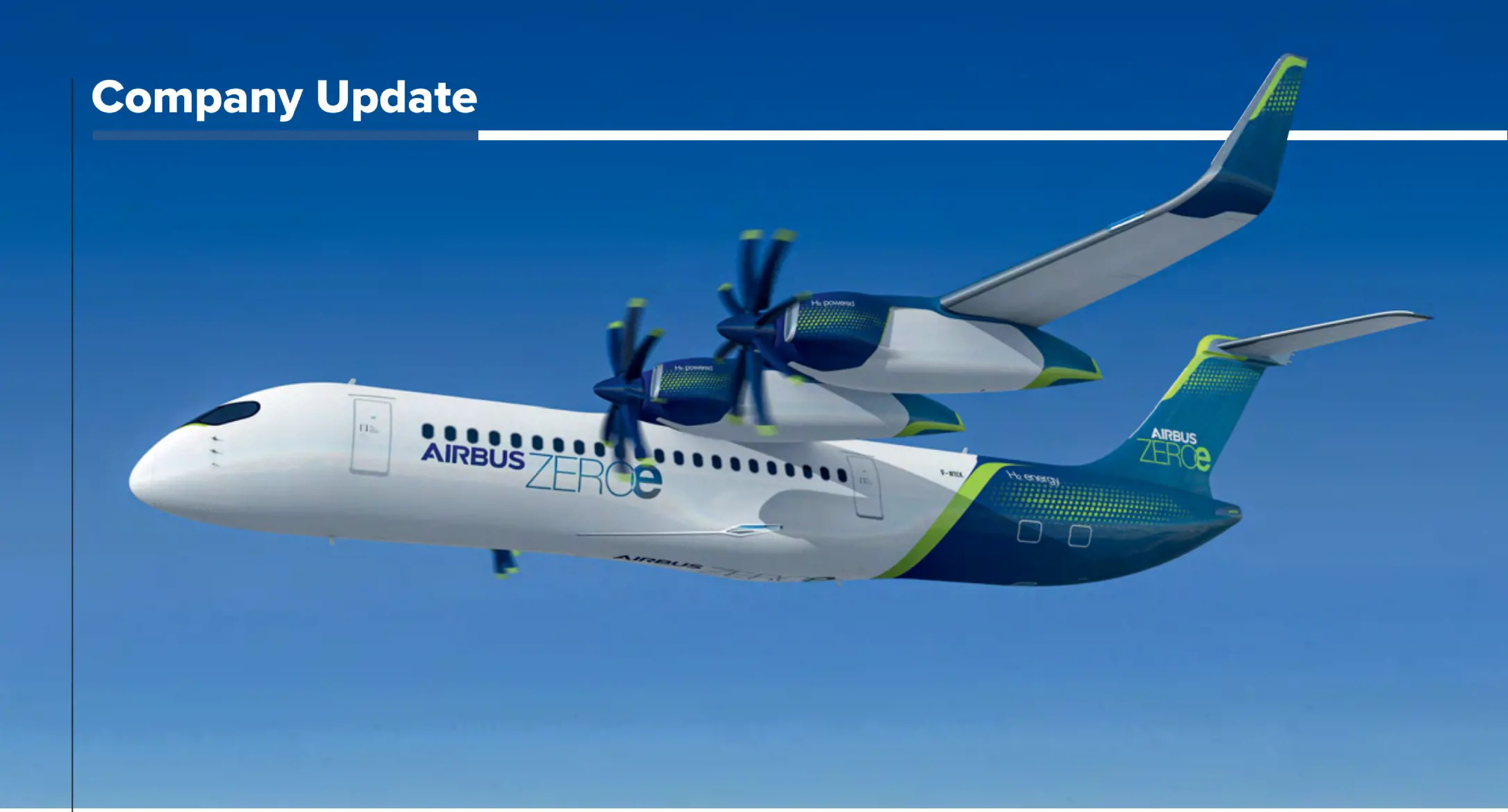
But an open rotor comes with significant installation challenges because of its huge diameter, which is 4m (157.5in) for the RISE demonstrator. Fitting this under a wing requires a gull-shaped design, on which the engines are placed further outboard to get the required ground clearance. Rear-mounted



▲ A mock-up at the summit of Airbus’s folding wing tip
Richard Schuurman



◀ A model of the Revolutionary Innovation for Sustainable Engines (RISE) open fan engine demonstrator was shown at the summit
Richard Schuurman



▲ The first ZEROe aircraft will seat 100+ passengers in a slightly wider fuselage, with space for two hydrogen tanks at the back Airbus

rotors are also complicated. Experts like German Aerospace Laboratory director Björn Nagel prefer wing-mounted engines for installation, mass and aerodynamic reasons. Airbus still has not finalised the design. Wherever you position the engine, the fuselage will require extra protection to prevent a failing rotor blade from piercing the hull. Noise and speed should be fine and at around A321neo levels.

Radically different

Guillaume Faury referred to NGSA as “an evolutionary rather than a revolutionary aircraft”, but that’s not how Karim Mokaddem sees it: “This will be a game-changer, a radically different aircraft.” Not just because of the engines, but the new narrowbody will also have a fuselage and wings made from the latest composites. NGSA will be the first Airbus to benefit from the Wing of Tomorrow programme, which is run by Airbus UK in Broughton, North Wales, and Filton, near Bristol.

The aircraft will get folding wingtips, just like the Boeing 777X. “To improve the efficiency of the aircraft, you want to improve the aerodynamic efficiency. You make your wings very long and slender with a high aspect ratio. The problem is gates at airports are sized at a certain wing span, so we need folding wings,” said project leader Sue Partridge.

Airbus UK has produced two prototype wings, the first undergoing full-scale structural testing to validate composite technologies, and the second to validate the modular approach of integrating systems. Sue Partridge said: “Our third demonstrator is in build now and is the ‘run at rate’-wing to stress the industrial system and see if those technologies are delivering what we intended them to deliver. We need to make our wings at high rates and at costs that are sustainable for our business. So industrialisation of our new technologies through robotisation and automation is absolutely key.”

NGSA will also be more electric, automated and connected than any previous Airbus model, with automation in the cockpit used to assist the pilots rather than taking over. With EIS a decade away or so, there is still work to do: “We have in front of us three to four years of maturation before staking the real potential of the technologies,” said Mokaddem.

ZEROe

The decision to delay the launch of the first hydrogen ZEROe aircraft is predominantly driven by the hydrogen ecosystem and certification not being ready in 2035. Guillaume Faury said: “Five years since launching ZEROe, we have learned a lot. We can develop and manufacture a commercial hydrogen airplane that works. We learned as well that the competitiveness of such a plane will not be good enough to compete with other planes. We would have the risk of a sort of Concorde of hydrogen, in which we would have a solution that would not be commercially viable at scale.”

Vice-president of ZEROe, Glenn Llewellyn said: “What we have seen for sure is that the hydrogen ecosystem hasn’t developed as we would like. We are using this extra time to develop the technology further, increase the performance and increase the scalability. That means improving efficiency, improving weight.”

When it launched ZEROe in 2020, Airbus considered two options: direct injection of hydrogen into turbofan engines or using fuel cells to convert hydrogen into electricity to run electromotors. In 2022, the second option became the preferred one and a lot of time, money and effort has gone into developing this solution. The fuel cell system that in 2022 was still the size of a living room in a laboratory in Ottobrunn, Germany, has been shrink-wrapped into a fuel cell not much bigger than your average suitcase, producing 1.2 MW of electricity. Hydrogen tanks have been developed and will be tested this year.

The entire hydrogen system has already been tested extensively in Grenoble, France, to be continued this year. Glenn Llewellyn said: "By 2027, our objective is to take an even further major step forward, testing the complete end-to-end system of the fuel cell engine and the liquid hydrogen storage and distribution system together. This will allow us to access the full system in action." Later, the engine is to fly on A380 MSN001.

The first ZEROe aircraft will seat 100+ passengers in a slightly wider fuselage, with space for two hydrogen tanks at the back. It will have a high wing with four instead of six hydrogen fuel cell pods, each producing 2.0 MW of power. The aircraft has a T-tail and a nose that looks like a mix of A350 and A220.

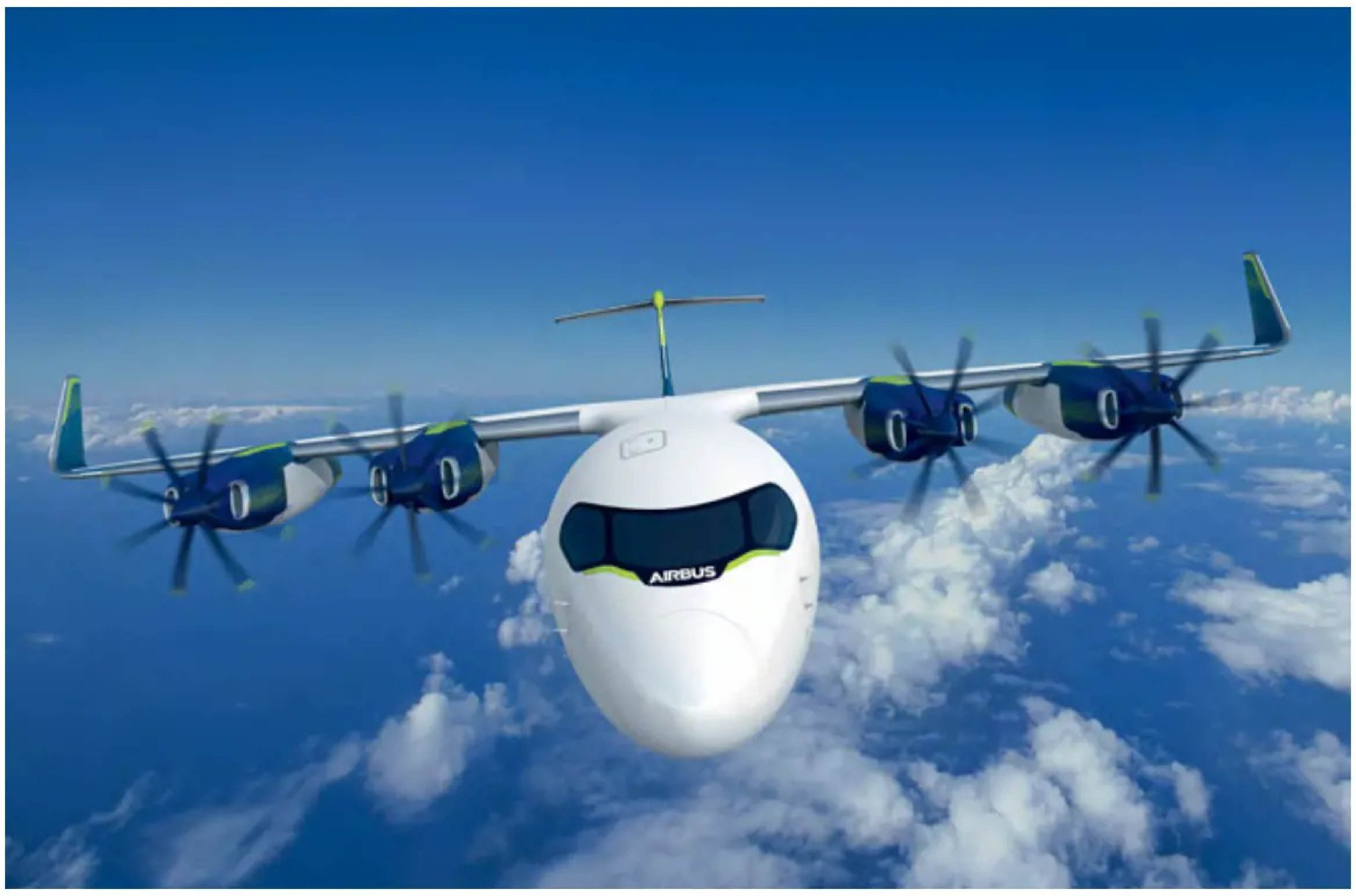
But with many years of development to go until programme launch, Llewellyn admitted the design will change: "We know there is still room for improvement. We believe our fuel cell engines can become lighter, more efficient and more aerodynamic. We have a clear roadmap for making them more compact and, most importantly, more power-dense. We are also working to refine our hydrogen storage technology, making tanks lighter, more compact. A top priority is to transition from a pressure-fed tank system to one incorporating an integrated pump, optimising efficiency and the full aircraft performance."

Racer

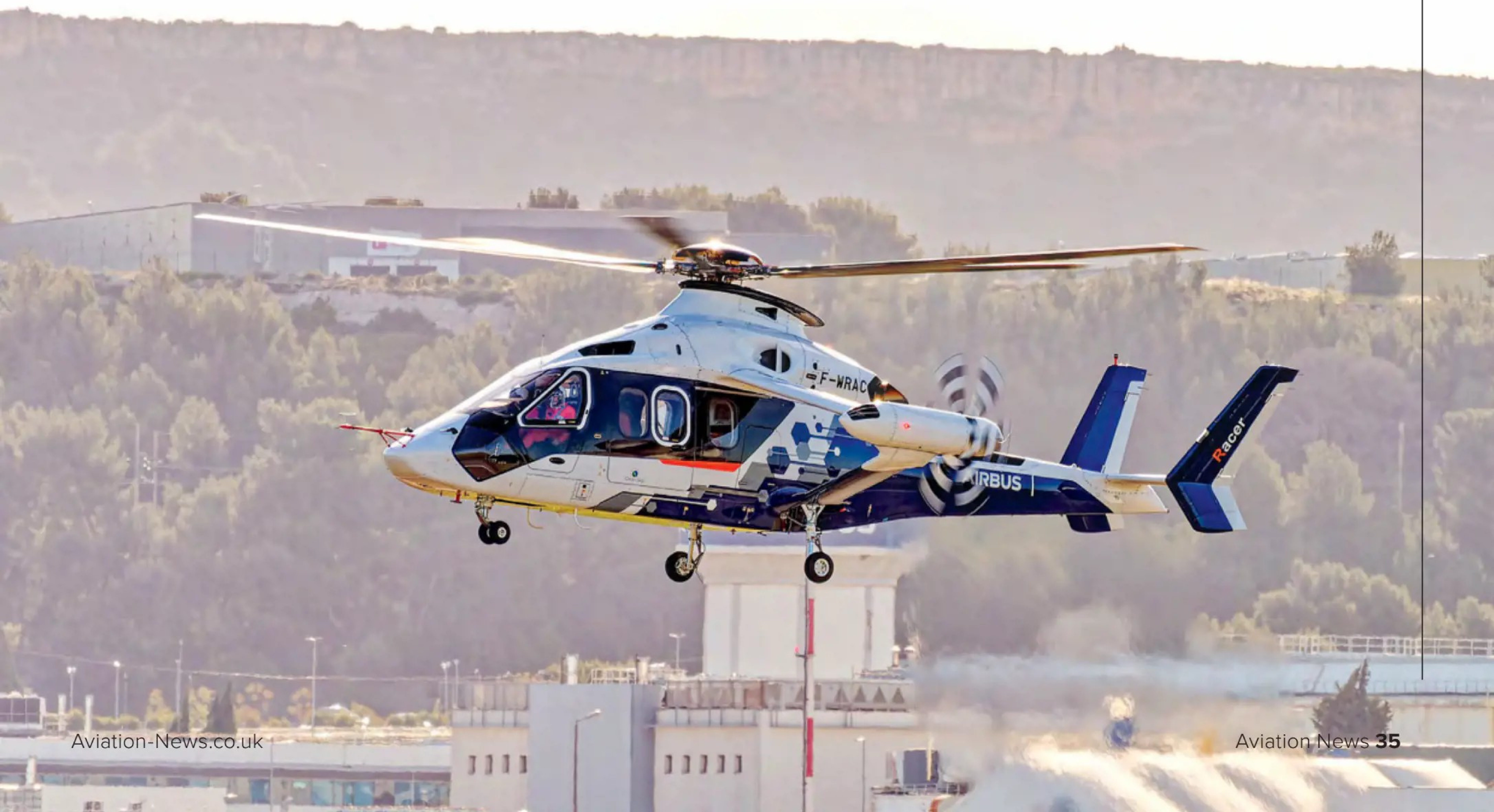
The Airbus Summit also included updates on Racer, the hybrid helicopter demonstrator that first flew in April 2024 and was developed under the Clean Sky 2 programme. It was on static display on the first day of the summit. While Racer has a main rotor on top, two lateral rotors mounted on double side wings help it to reach 420km/h of 227knots during test flights. This makes it not just fast, but has a lower fuel burn, leading to lower emissions.

While the first part of the programme has been completed, work will continue, said Brice Makinadjian, chief engineer of the Racer programme: "We have made further modifications to reduce drag. We also modified the Safran hybrid-electric eco-mode system [which pauses one engine in cruise mode]. During tests later this year, we want to reduce carbon emissions by over 30 per cent. Last year, we already demonstrated a 20 per cent reduction."

Sébastien Dubois, head of program development and communications at Clean Aviation, said: "Racer started in 2014 and has achieved exactly as planned, although it wasn't an easy journey. For Clean Aviation, it is now the ambition to deploy its solutions onto a product, to exploit the results." Makinadjian added that various elements could be deployed on other helicopter projects, both commercial and military. However, William Sampson, the head of marketing operations at Airbus Helicopters, added that there might be other priorities right now than increasing the speed for new military helicopters. AN



▲ A head-on view of the concept design of Airbus's ZEROe aircraft Airbus



▼ Airbus's Racer, lifting for its first flight in April last year Airbus

Iniochos

Exercise Iniochos 2025 was set to be one of the largest and most intricate multi-national air defence exercises ever conducted in the Mediterranean. **Peter R Foster** was there

25

▲ A breathtaking image of the participating aircraft at this year's Exercise Iniochos, flying in a formation Rich Cooper

▲ A HAF F-16C belts through the low-level area in full afterburner during the exercise Rich Cooper

The Iniochos 2025 exercise was held at Andravida Air Base, located in the northwest of the Peloponnese peninsula of Greece. Multiple air platforms flocked to the base between March 31 and April 10. The exercise was designed to simulate complex air combat and defence operations, focusing on enhancing interoperability, strategic planning and real-time co-ordination among NATO allies, partner nations and other international forces. With an emphasis on air superiority, air defence and tactical co-operation, Iniochos has become a cornerstone event in the ongoing evolution of international defence co-operation.

Origins

Iniochos's foundations date back to the 1980s as an in-house Hellenic Air Force (HAF) exercise. Decades later, it had become a bilateral training event between Greece and Israel. Named after the mythical Greek charioteer Iniochos, it initially focused on improving air combat capabilities of those two countries' air forces. Over time, it has grown in scope and complexity, reflecting the increasingly integrated nature of modern military operations and the necessity of multinational co-operation in responding to regional and global threats.

Now, Iniochos has become an established platform for the training of air forces from across Europe, the Middle East and beyond. The exercise has evolved into a larger-scale event that offers a broad spectrum of training opportunities in air combat and defence.

Objectives

It is designed to foster interoperability between participating air forces, ensuring that they can effectively work in a combined force environment. This is critical, as modern military operations often require seamless co-ordination between different nations, each with their own protocols, systems and tactics. Iniochos aims to bridge these gaps and create a common operational framework.

A central objective of the exercise is air superiority and dissimilar air combat training (DACT), both cornerstones to establish and maintain air superiority in complex combat scenarios. Air superiority is a key enabler for modern military campaigns, as it allows forces to control the skies and provides a platform for ground and naval operations, while also teaching dissimilar aspects

▶ A highlight for many photographers and enthusiasts witnessing the exercise was the Indian Air Force and its Su-30MKi *Flankers* Rich Cooper

FM
482 FW
Makos

▼ The USAF participated in the exercise with multiple F-16Cs from the 93rd Fighter Squadron, which is nicknamed 'Makos' Peter R Foster of defending complex packages. Iniochos 2025 has been designed to simulate a variety of real-world combat scenarios, allowing participants to engage in air-to-air combat, defensive counter-air missions and offensive air support operations.

Participants train in all scenarios as the building blocks and intensity of the exercise increase. The participants get to perform as both 'blue' and 'red air'. They engage in defensive and offensive air operations, practising tactical manoeuvres devised to neutralise enemy aircraft and deny access to airspace. The 2025 exercise involved a variety of air defence systems, including surface-to-air missile platforms and advanced radar systems; the goal being to create a realistic environment where participants can hone their skills in evading, targeting and defeating both airborne and surface threats.

The programme also sought to integrate multi-domain operations, involving not just air forces, but also cyber, space and land components. As modern warfare becomes increasingly complex and interconnected, exercises like Iniochos are crucial for ensuring that all domains – air, land, sea, space and cyberspace – work in unison. This has allowed participating forces to practise joint and combined arms operations, reflecting the full spectrum of modern conflict.

Participants

Participation in Iniochos 2025 has brought together multiple NATO member states, along with strategic partners from the Middle East, Asia and other regions. Greece, as the host nation, plays a central role with multiple aircraft types, including the fan-favourite F-4E Phantom II. Looking beyond the Greek involvement, the breadth of international engagement underscores the growing significance of the event.

The USAF Reserve Command participated via the 93rd Fighter Squadron of the 482nd Fighter Wing from Homestead Air Force Base in Florida. The 93rd sent F-16C Fighting Falcons across the Atlantic to Greece.

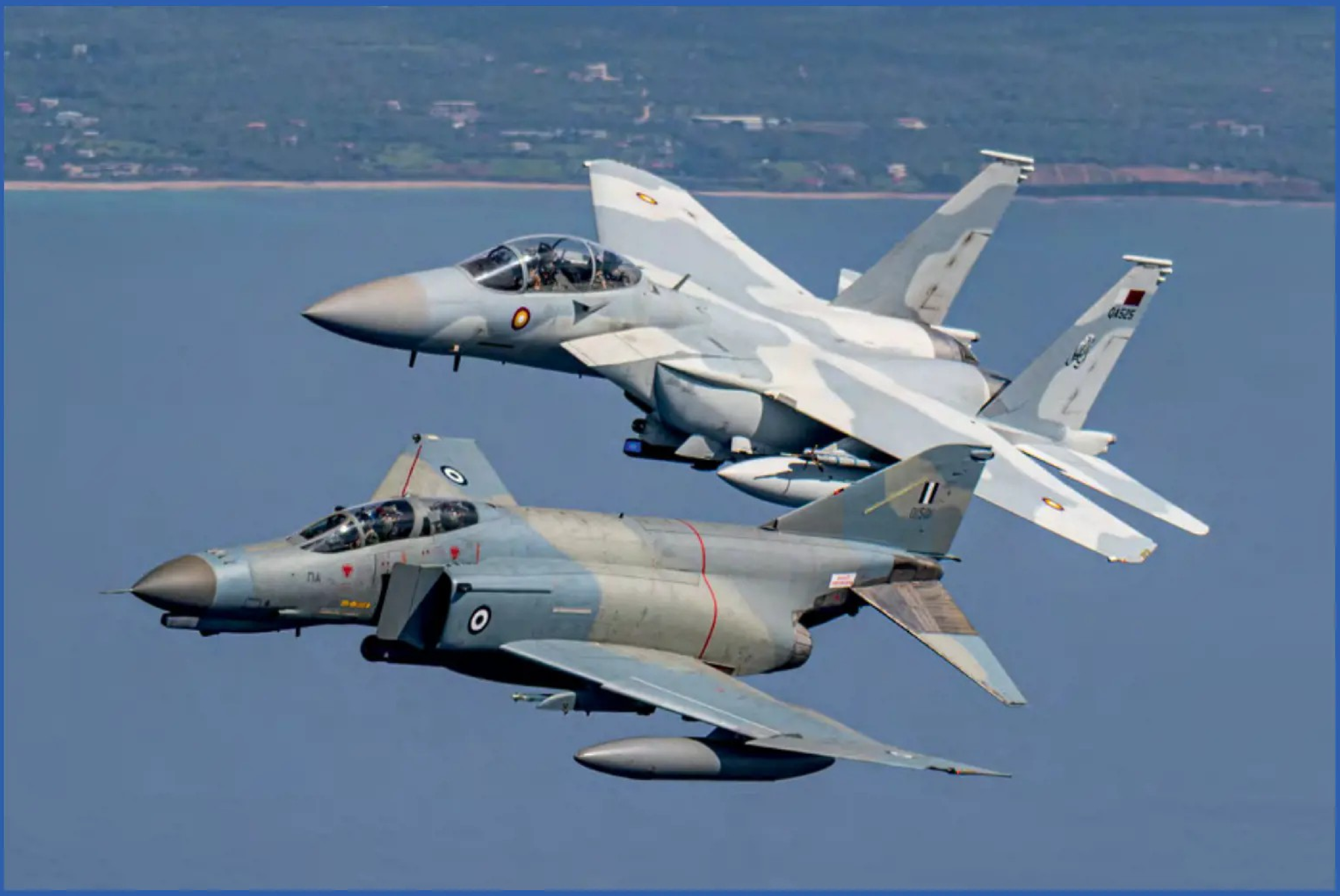
The Slovenian Air Force brought turboprop action to Greece with two of its Pilatus PC-9M aircraft Peter R Foster

The exercise was rather Mirage-heavy on the participants' list; here is a home nation Mirage 2000 in the low-level area during the first week of the exercise Peter R Foster

▲France took its Dassault Mirage 2000D twin-seat fighters to take part in the exercise Peter R Foster

◀Still a vital asset in a modern battlefield is the Panavia Tornado ECR. One here of the Italian Air Force steams through the Peloponnese valleys Peter R Foster

▶ A first and a last? Seen flying together is the first time attendee F-15QA of the QAF and the HAF's ageing and soon-to-be-withdrawn from service F-4E phantom II. Rich Cooper



▼ The HAF's most modern fighter, the Dassault Rafale, also participated in the exercise Rich Cooper

Israel's air force, known for its advanced capabilities and operational experience, particularly in contested environments, is believed to have contributed high-tech fighter jets operating to and from their home bases daily but only in the initial exercise period, along with specialised electronic warfare capabilities and intelligence-sharing systems that did deploy to Andravida. The 122nd Squadron, which operates the G550 Eitam aircraft, represented Israel in the exercise.

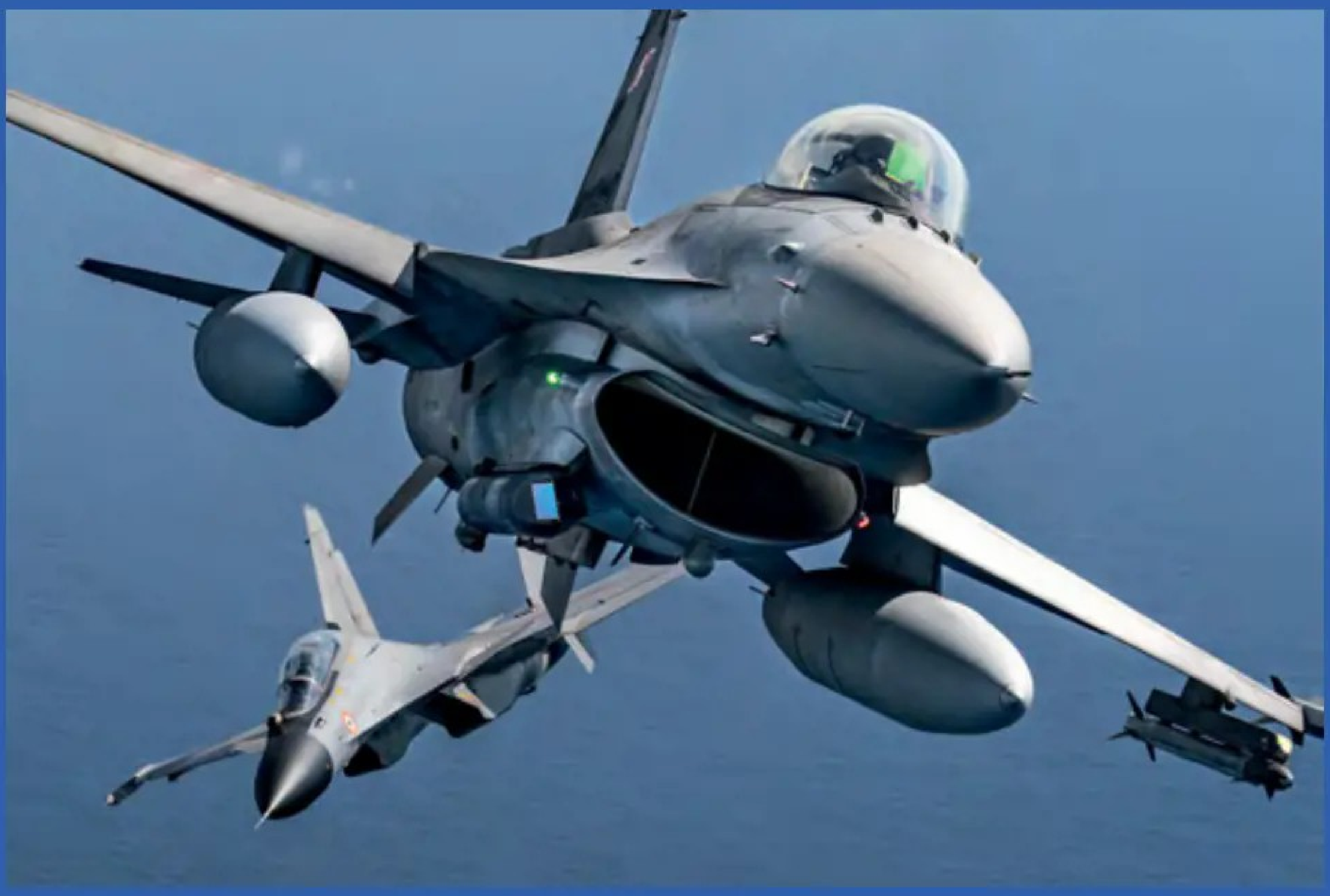
Fellow European nations have been active participants in the past and Iniochos 2025 was no exception. Italy participated via Panavia Tornado ECRs, France sent Mirage 2000Ds and Poland took part with its F-16C Fighting Falcons. The Spanish Air Force attended with multiple F/A-18 Hornets.

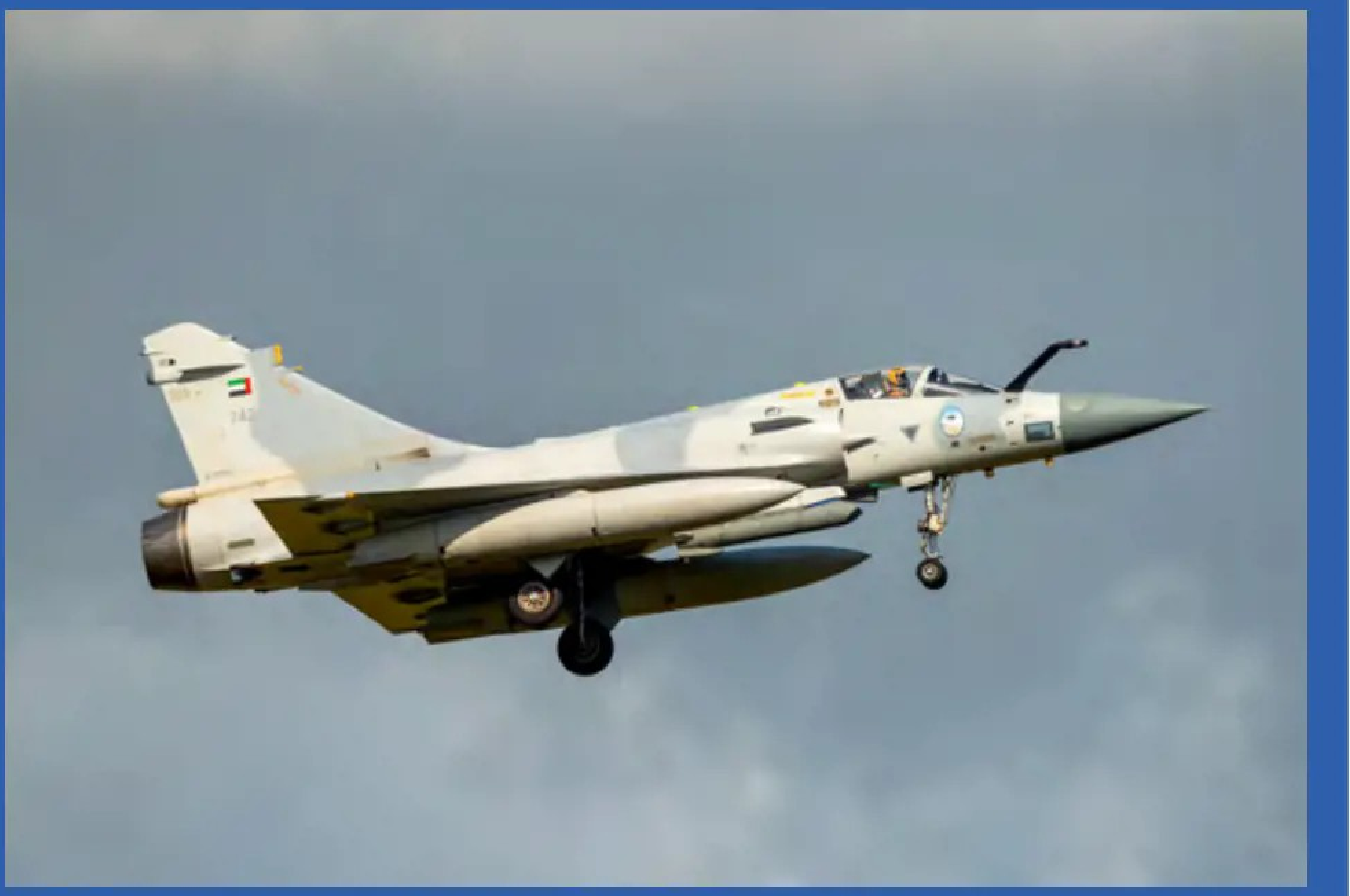
Other regional partners from the Middle East see this as an ideal training ground, although the inclusion of Israel has posed some serious political obstacles to overcome. It was a first for the Boeing F-15QA Eagles of Qatar's ever-increasing air force – the QAF has participated previously with its Dassault Rafale fighters. Qatar's neighbours, the United Arab Emirates Air Force, attended Andravida with multiple Mirage 2000-9s.

The combat search and rescue (CSAR) element of the training was provided by, among others, the Pilatus PC.9s from Slovenia and a Bell 412Epi from Montenegro; both units attending for the second occasion.

The inclusion of the Indian Air Force with its Sukhoi Su-30MKi *Flanker* jet fighters from No 8

▶ The Greek flag, proudly presented on the dashboard of a HAF F-16C during the final days of the exercise Rich Cooper





Squadron IAF added another dimension to the realistic training, especially in the corner stone aspect of DACT. This was particularly important to participating countries from not only the Middle East but amid the rising tensions of Eastern Europe. This is the second time India has participated in the Iniochos series of exercises.

Such was the size of the event that unlike previous years some participants had to operate from another location. This saw all the 'guest units' based and operated out of Andravida while several of the home units were deployed to nearby Araxos, which to some degree added another dimension to the operating plan and execution.

Scenario design and simulation

The core of any military exercise lies in the realism of the scenarios, and Iniochos used a combination of live-fly missions, synthetic training environments and simulated air-to-ground strikes to replicate a range of threats and responses. It included the primary training objectives of engaging in high-intensity air combat, simulating aerial dogfights, co-ordinated strikes and counter-strikes. These were designed to test individual pilots' skills and the ability of air forces to work as cohesive units in challenging airspace.

In modern combat, air superiority is often fought in the electromagnetic spectrum. Participants in Iniochos 2025 were challenged with advanced electronic warfare, including GPS jamming, radar suppression and communication disruption. The exercise was designed to emphasise the ability to operate in a contested electromagnetic environment, an increasingly vital skill for modern air forces.

As with any multinational air campaign, an essential component requires sophisticated command-and-control (C2) structures to test the ability to co-ordinate forces across different nations, ensuring that aircraft, missile systems and intelligence-sharing platforms are integrated and operating in real time. For this, a NATO Boeing E-3G AWACS aircraft from the Preveza airfield supported while a USAF Boeing KC-135R operating from Elefsis airbase close to Athens provided the force-multiplier aspect to the training packages.

The lessons learned and the relationships built during Iniochos 2025 will hopefully have long-term benefits for multinational operations. Enhanced interoperability, mutual trust and shared experiences should lay the groundwork for future collaborative efforts in both peace and wartime scenarios.

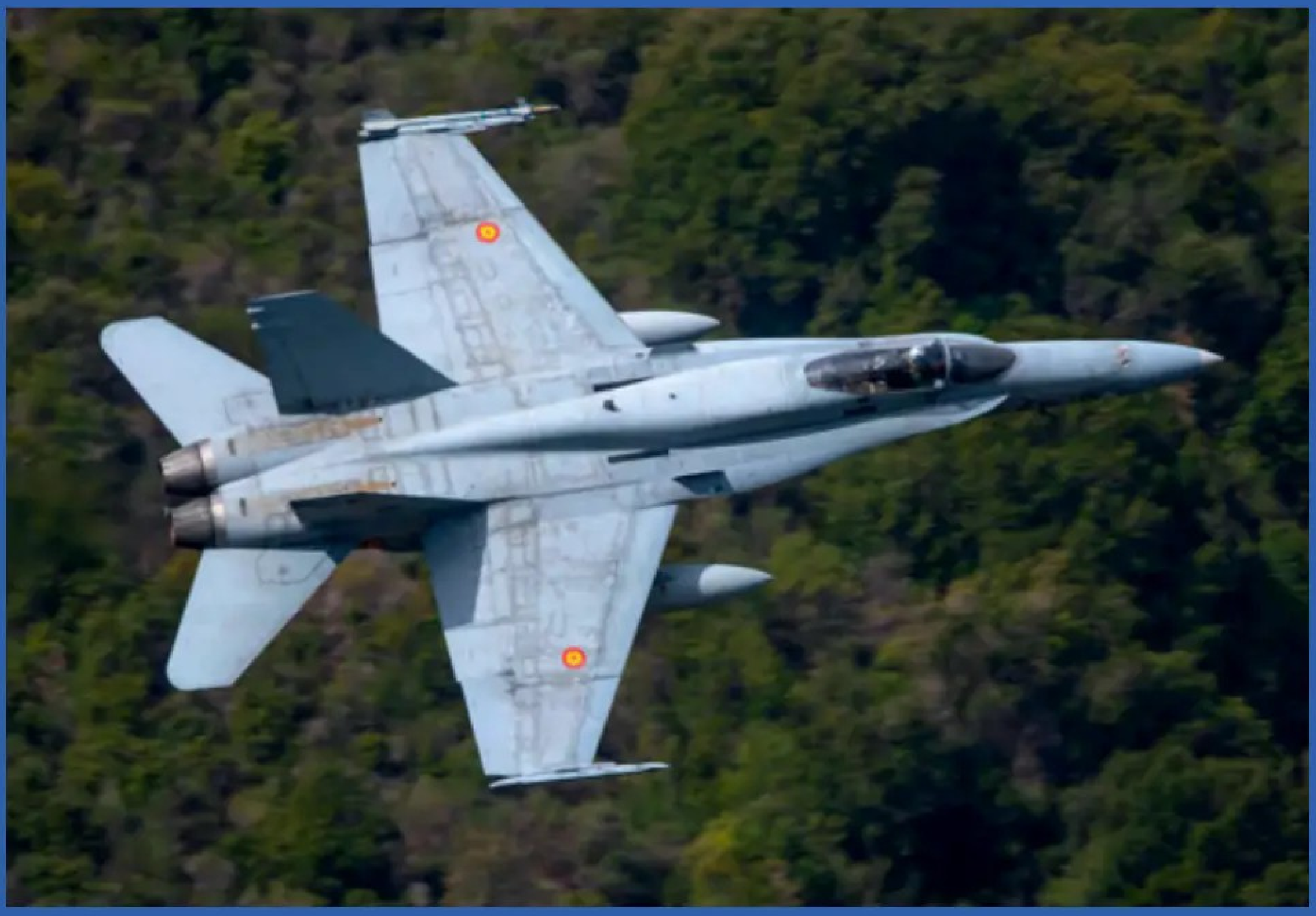
The location for further Iniochos exercises is not yet clear, or at least not made public. Andravida base itself is to become home to the HAF's Lockheed Martin F-35A Lightning II fleet. This will see some considerable rebuilding being undertaken that is reported to take three years, although locals think this is more likely to be nearer to five. It has been suggested the exercise will shift to either Tanagra or Larissa, with the former appearing to be the hot favourite. AN

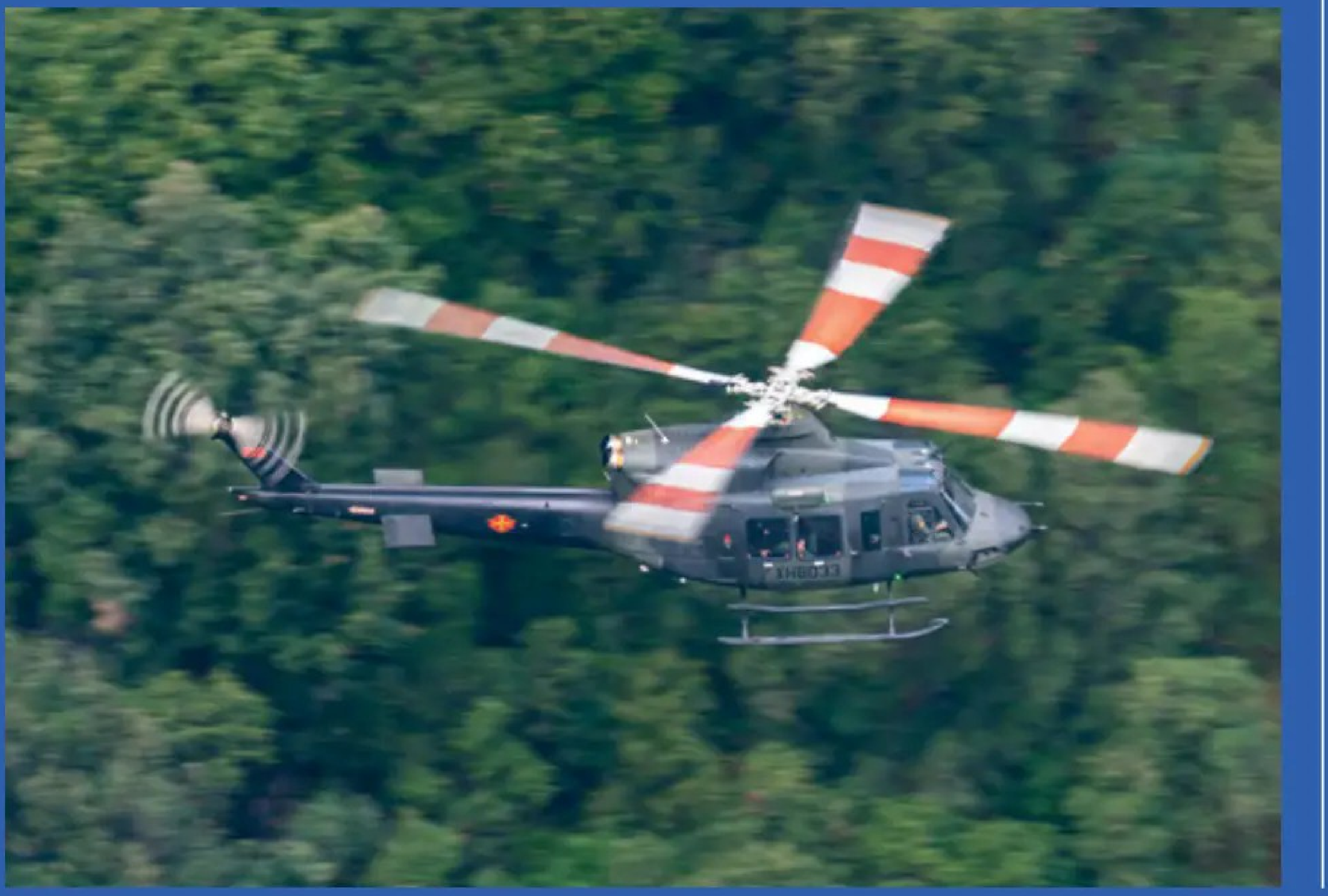
◤ **A dissimilar formation not often seen is a Polish Air Force F-16 leading the way for an Indian Air Force Su-30MKi** Rich Cooper

◥ **A UAEAF Mirage 2000-9, on approach back to Andravida Air Base after a morning mission** Peter R Foster

◣ **Spanish F/A-18s were present in the UK at the time of the exercise at RAF Marham in Norfolk, to participate in Exercise Ramstein Flag, but Spain also sent multiple Hornets to Greece for Iniochos** Peter R Foster

◢ **Making the most out of the combat scenarios' simulations, Montenegro sent one of its recently acquired Bell 412EPis to take part.** Rich Cooper





NO STEP INSIDE
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AVIATION NEWS

DANGER
HELI OPERATIONS
XV666
NO PUSH

Sea King HU.5 XV666, affectionately known as ‘Damien’ in Royal Navy service, sitting in a clearing in the Wiltshire countryside. This example was donated to Ukraine in late 2022 Louis Prebble

GRU 40

As São Paulo Guarulhos – Governor André Franco Montoro International Airport celebrates its 40th anniversary, **Jose Salgueiro** takes us from the early days of the airport to today

▲ Lead- The airport complex is framed by the industrial zone and metropolitan region of Guarulhos, with the city of São Paulo in the background All images Jose Salgueiro

São Paulo is the biggest city in Brazil and one of the largest in the world. Located in the southeastern region of the country, 400km from the famous landmarks of Rio de Janeiro, the metropolitan region of São Paulo has a population of approximately 11.45 million and a strong economy responsible for 10% of the country's GDP.

Until the mid-1980s, the city was served by only one airport, surrounded by buildings, which received domestic flights from all over Brazil and some international routes from other South American countries. The Congonhas Airport, inaugurated in 1936, was saturated and lacked the necessary infrastructure to handle widebody aircraft on regular flights. As a result, most international flights to São Paulo used to arrive at Viracopos Airport in Campinas, located 95km from São Paulo and from Rio de Janeiro's International Airport, which was then the largest facility in Brazil.

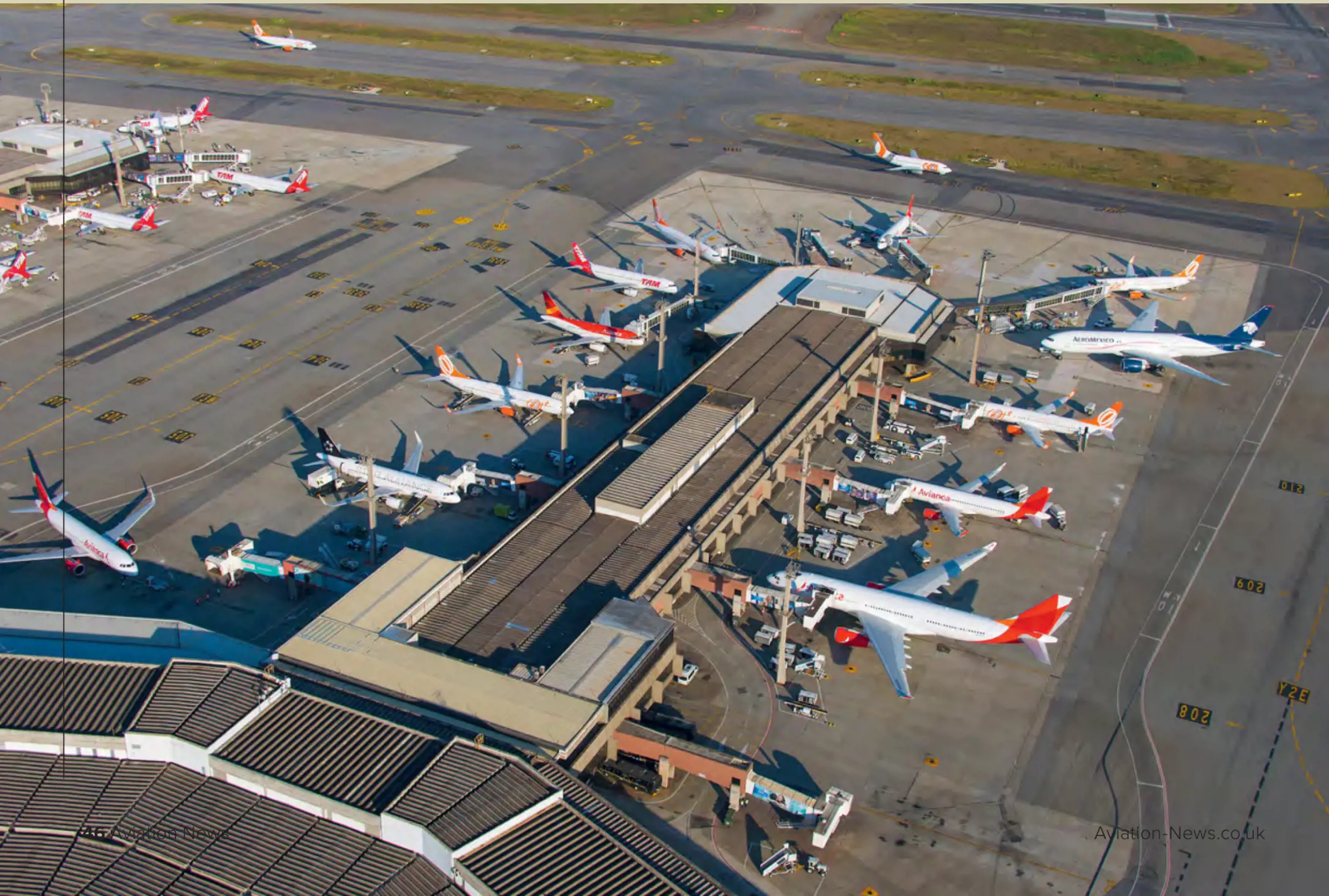
As the country's economy grew, the demand for new flights increased, highlighting the urgent need to 'untangle' the air traffic congestion caused by pent-up demand in Brazil's largest city. In this chaotic context, on January 20, 1985, a Varig Boeing 747-200 inbound from New York landed for the first time, inaugurating the São Paulo International Airport – Governor André Franco Montoro, better known as Guarulhos Airport (GRU). This name was given due to its location in the city of Guarulhos, 30km from downtown São Paulo.

Immediately, the new facility alleviated the air traffic congestion throughout the country's southeastern region by absorbing all flights to and from São Paulo that were previously spread across other airports.

▲ The positions were optimised so that all available space scattered across the airport could be used to park an aircraft

Zero to hero

Shortly after initial operation, Guarulhos Airport became the main airport in Brazil and one of the busiest in the world. São Paulo International Airport occupies a total area of 12,000km^2 with a 975,000m^2 apron. It was built on the site of a former Brazilian Air Force Base in an area known as 'Cumbica', which, in the indigenous Tupi-Guarani language, means 'low cloud'. The name refers to the region's climatic

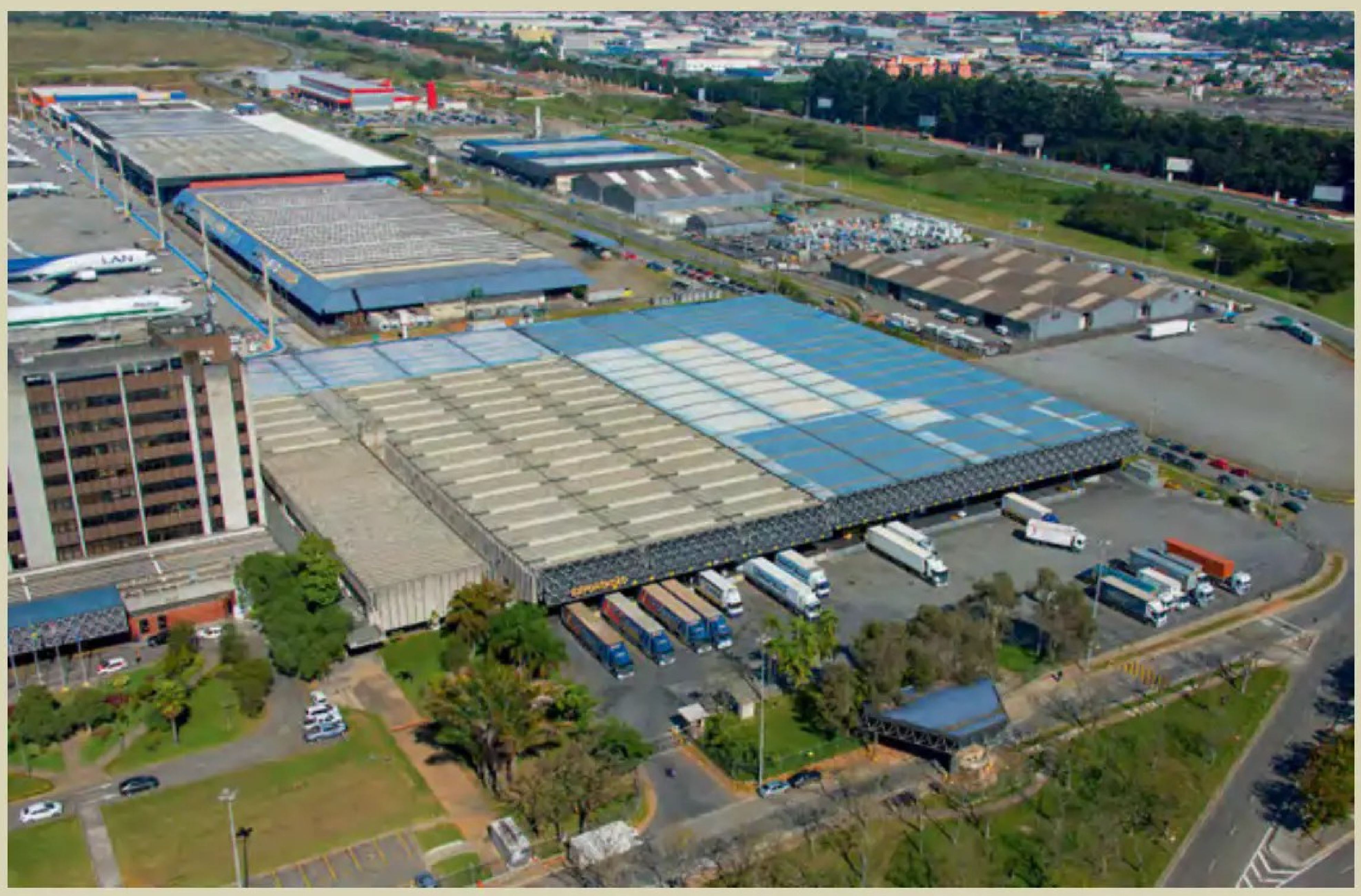

▼ Aerial view of the first terminal built at the airport, which was inaugurated 40 years ago and is now primarily occupied by aircraft from Gol Linhas Aéreas

◀ Guarulhos Airport is the main LATAM hub in Brazil and where it operates the majority of its international flights

▶ The first A380 landing at Guarulhos Airport was in December 2007. Currently, Emirates is the only airline operating this model here

characteristics, where on the coldest days of the year, the entire airport complex, situated about 750m above sea level, disappears under the fog.

The airport was initially designed with a terminal capable of serving 7.5 million passengers per year, a cargo terminal, a 65m-high control tower and a 3,000m-long runway. A second runway, 3,500m long and parallel to the original, was inaugurated just four years after the airport began operations, while the construction of the second passenger terminal was completed in 1993. With the completion of the expansion works and the integration of the two terminals, Guarulhos Airport increased its capacity to serve 8.25 million passengers per year.



▼ Cargo terminal with the old Varig Cargo building and Terminal 1 in the background that was inaugurated to accommodate low-cost airline flights

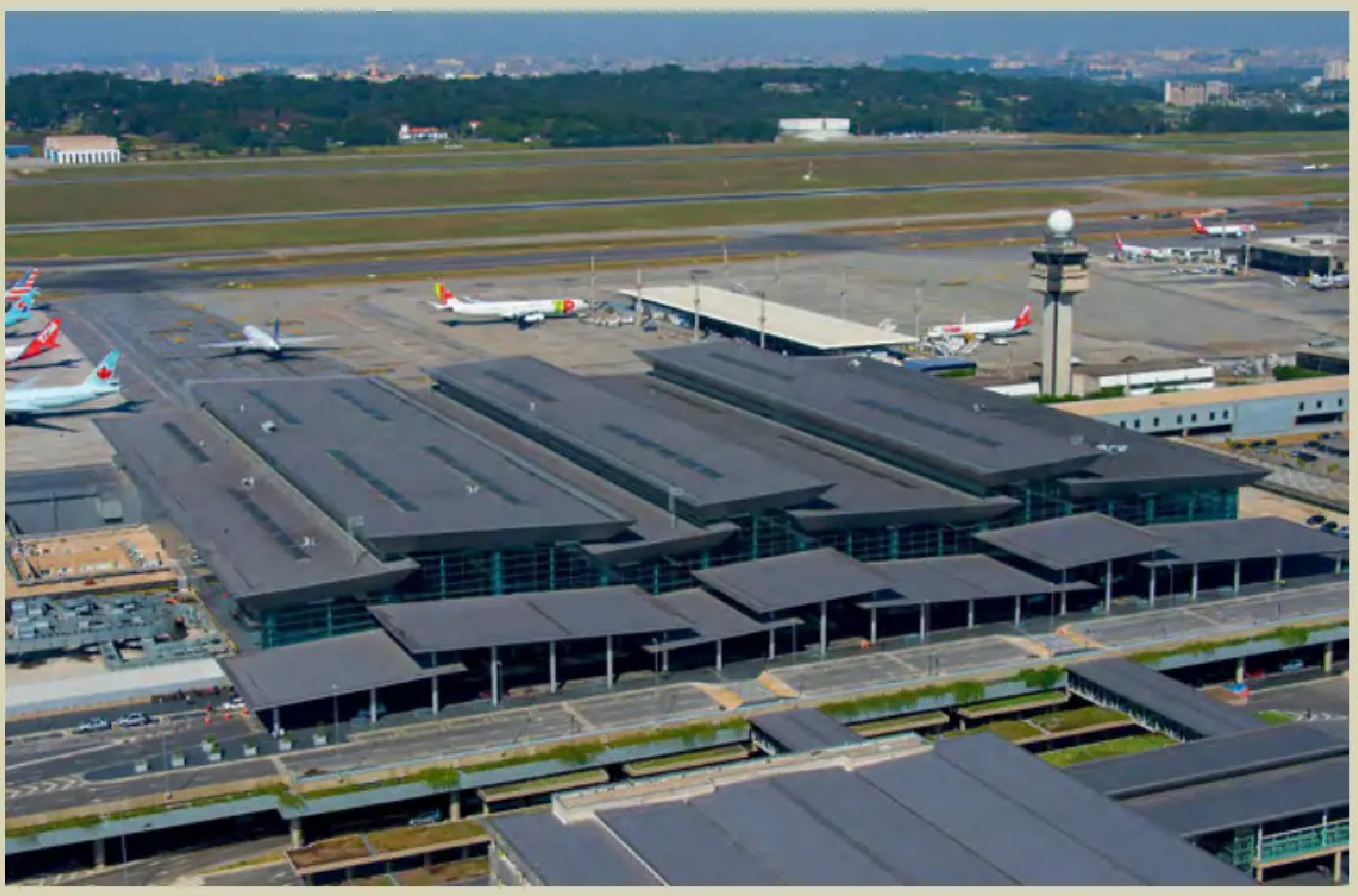
As Brazil's population and economy grew, the demand for new flights also increased, directly impacting the operation of the country's largest city's main airport. In February 2012, a smaller passenger terminal, adjacent to the cargo terminal and without boarding bridges, was inaugurated to handle the flights of national low-cost airlines, significantly increasing Guarulhos' capacity.

However, the constant need to invest in operational expansion and modernisation of the airport, which had previously been managed by the state-owned company Infraero, became incompatible with the state's ability to manage and allocate the necessary resources to serve all of the country's major airports. In 2011, after taking on the responsibility of hosting international events such as the 2014 World Cup and the 2016 Olympic Games, the Brazilian government allocated substantial funds for infrastructure works throughout the country.

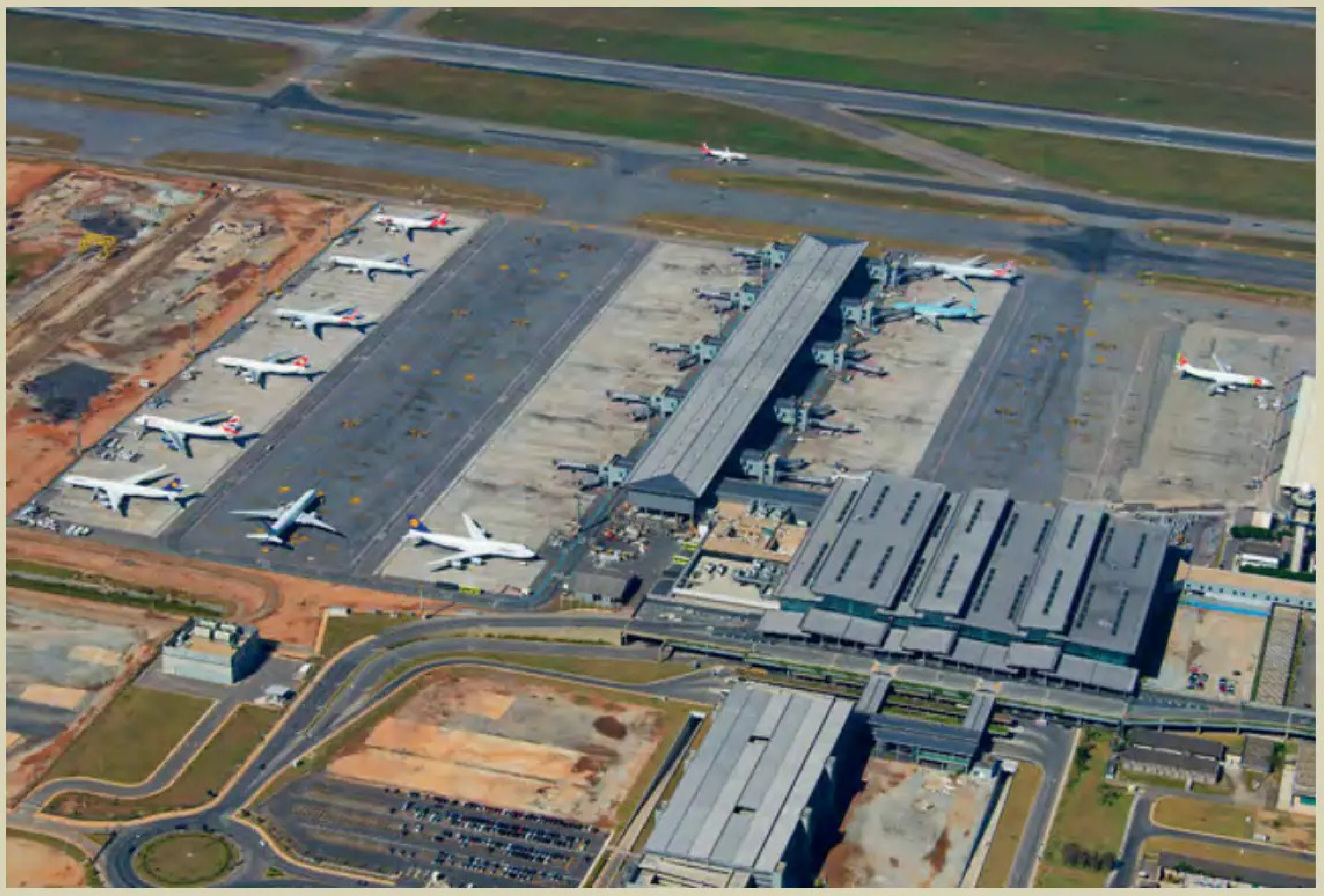
New management

The growing pressure to expand Guarulhos Airport's infrastructure, as well as other Infraero airports, led to the decision to privatise the management of these airports. After a public auction in which some of the world's largest airport management companies participated, the consortium Invepar won the bid to manage and economically exploit São Paulo International Airport for 20 years, for a sum of 16.2 billion reais (approximately US$9bn at the time), with the other 49% still under the control of Infraero.

The new management created the brand 'GRU Airport', a reference to the International Air Transport Association (IATA) code for São Paulo-Guarulhos International Airport, and began fulfilling a series of contractual obligations. One of the main requirements was the construction of a new terminal to ensure the airport could accommodate up to 42 million passengers per year within a record timeframe of 18 months. This with a rationale to handle part of the passenger flow generated by the major events that were about to come. The modern Terminal 3 at Guarulhos Airport was inaugurated on May 11, 2014, three months before the 2014 World Cup began. To complement the new terminal's infrastructure, a large, eight-storey parking garage with 2,650 spaces was built simultaneously.



▼ An aerial shot of Terminal 3, opened in 2014 to enable the airport to handle passenger traffic during the 2014 World Cup



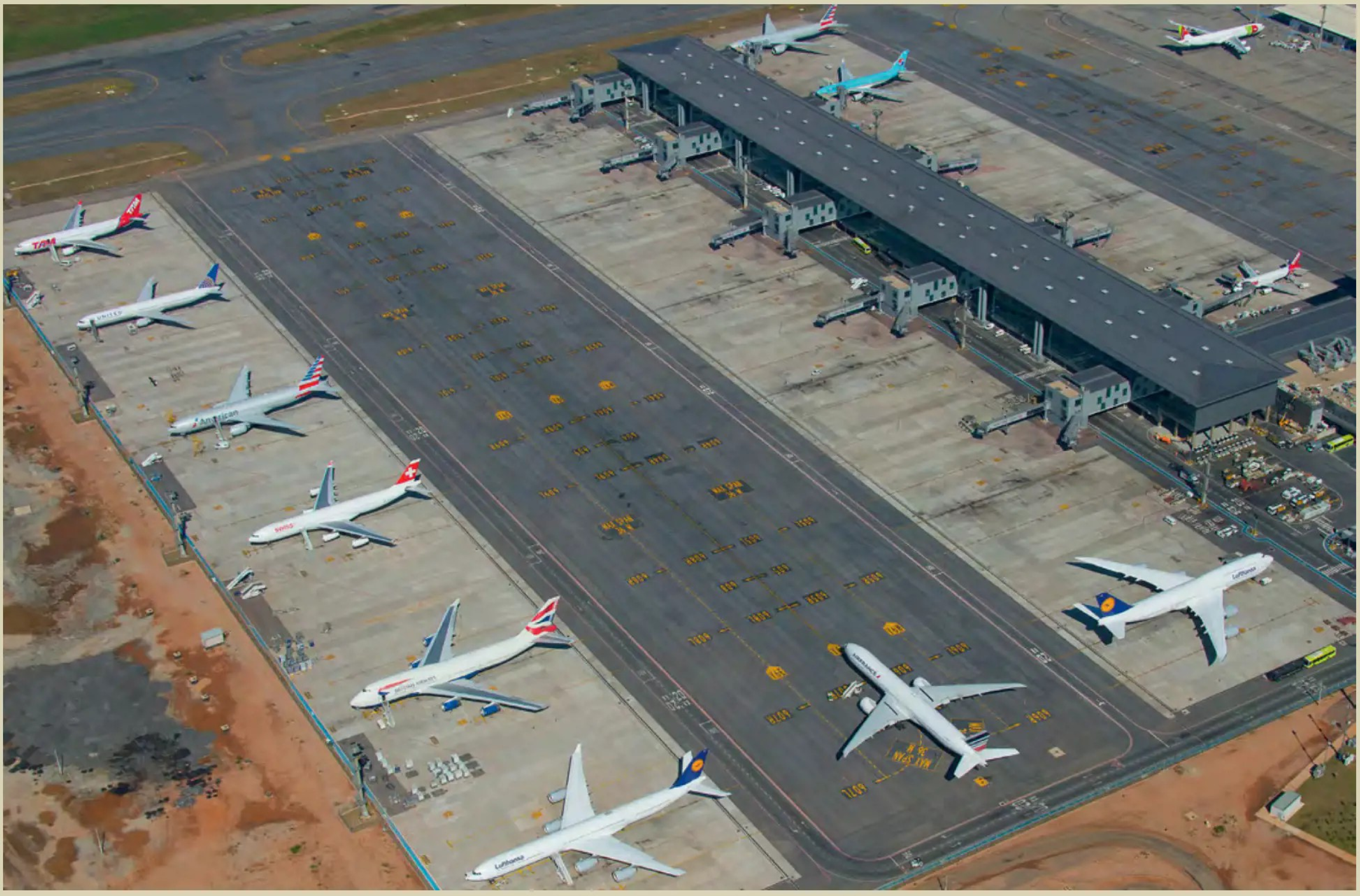
▲ A bird's eye view of Terminal 3 showing the parking building and the expanding aircraft apron

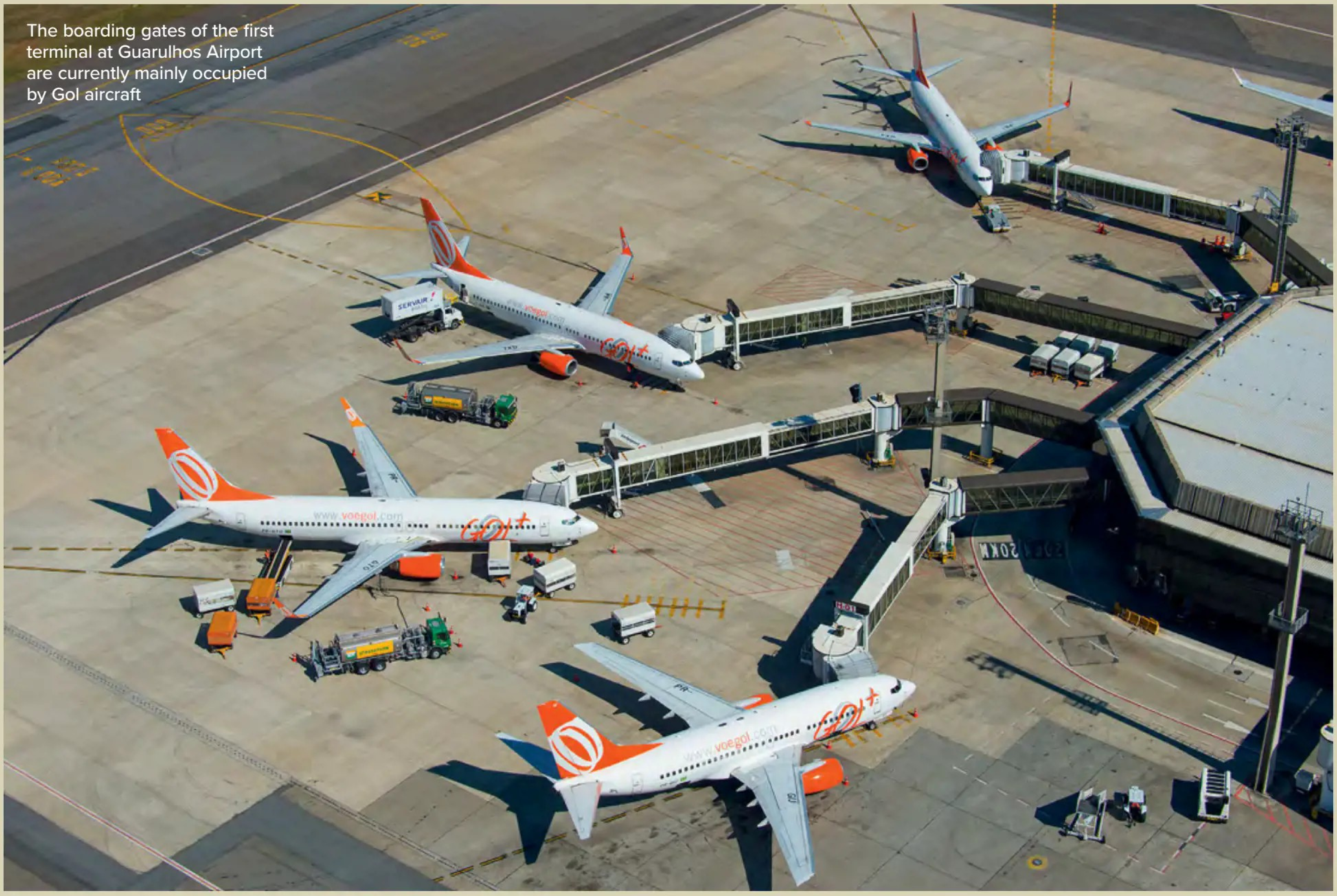
▲ After recent corrections due to the declination of Earth's magnetic poles, the runways at Guarulhos Airport, previously marked as 09L-27R and 09R-27L, have become 10L-28R and 10R-28L, respectively.

Setting records

São Paulo International Airport receives approximately 119,000 passengers daily, distributed over 820 flights to and from more than 100 destinations, operated by 34 domestic and foreign airlines. On the verge of celebrating 40 years since its inauguration, Guarulhos Airport set a new historical record, receiving a total of 43.6 million passengers in 2024, surpassing the 43m mark achieved in 2019 just before the COVID-19 pandemic period. The cargo terminal, with 190,000m^2, handled 235,000 tons of cargo in the first half of 2024, including 128,000 tons of imports and 107,000 tons of

▼ Arriving aircraft are attended to at the boarding bridges of Terminal 3 and are then towed to their remote parking positions on the other side of the apron





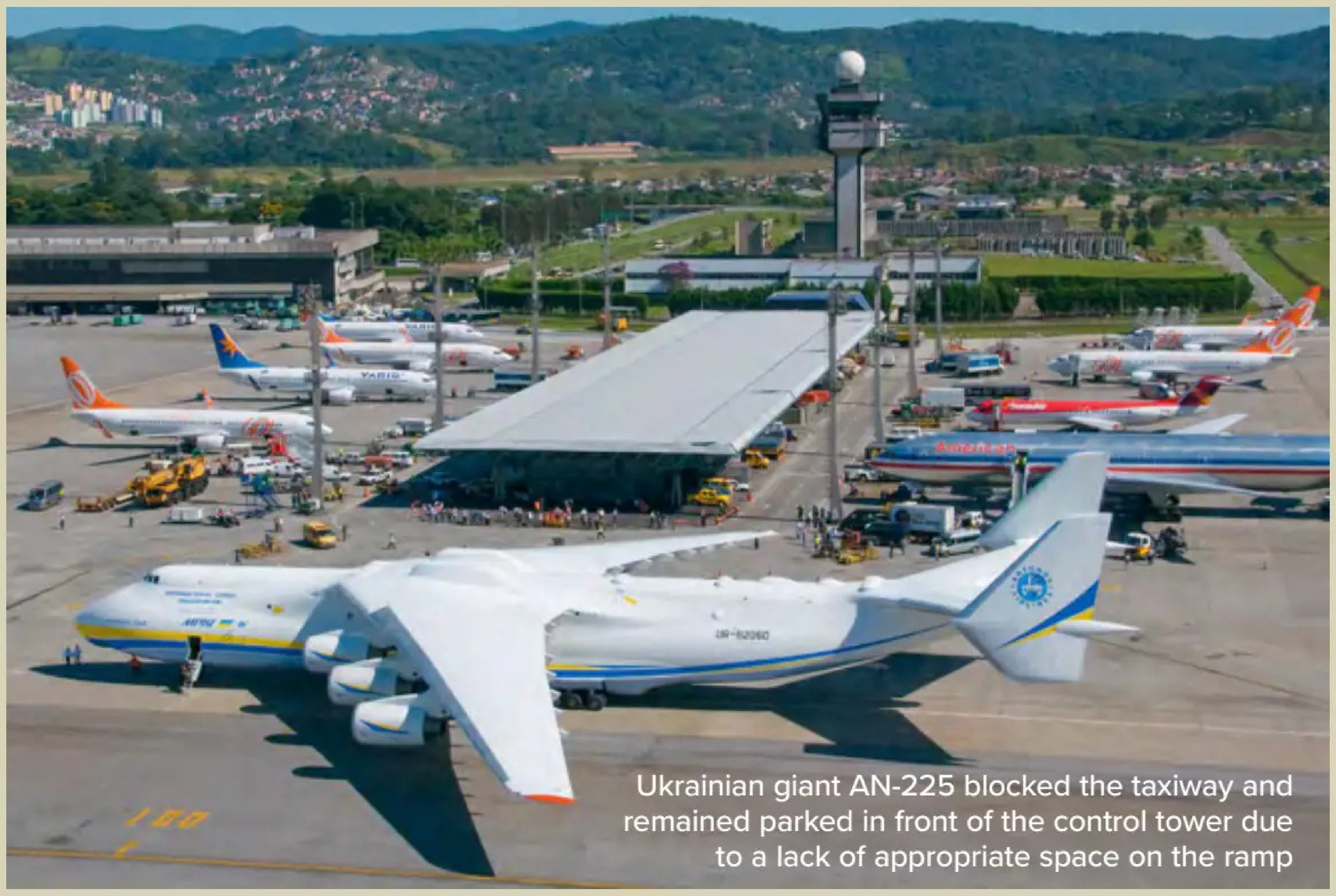
The boarding gates of the first terminal at Guarulhos Airport are currently mainly occupied by Gol aircraft

On some of the colder days of the year, Guarulhos Airport disappears under the fog, which is why it is the only airport in Brazil that operates with the ILS Cat IIIA landing system

exports. Currently, Guarulhos Airport is the third busiest airport in Latin America, behind the international airports of Bogota at Colombia and Mexico City.

The new record of movement at São Paulo International Airport exceeded the estimates made at the time of the inauguration of Terminal 3 by more than a million passengers. This highlights the airport's saturation and emphasises the urgent need to redistribute the air traffic, which is now concentrated excessively at the country's largest airport. However, decentralisation faces significant challenges, with strong economic and political interests seeking to preserve the current situation, which prevents the implementation of effective solutions. As much as possible, the management company of Guarulhos Airport will continue to expand its infrastructure.

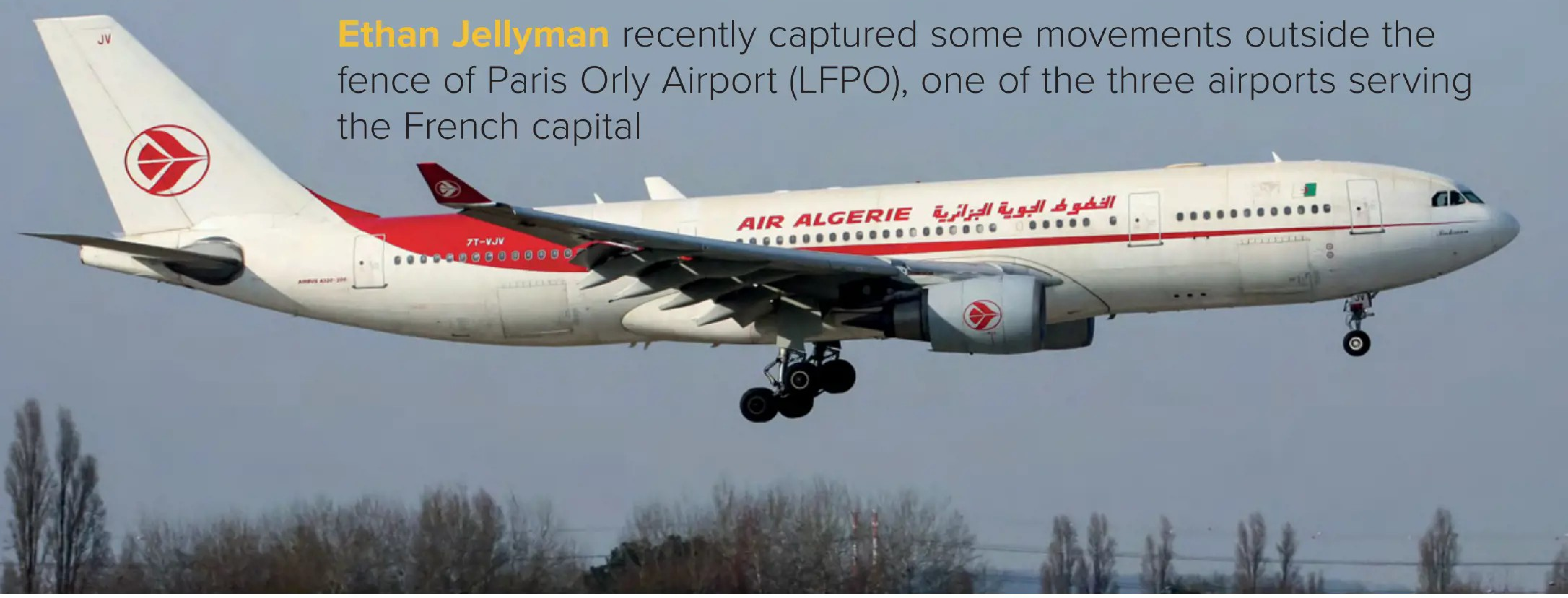
However, the continuous growth in demand for new flights requires a constant increase in the airport's capacity, which, in the case of Guarulhos, is extremely limited due to the densely populated urban area surrounding the airport. When there is no more space to expand its infrastructure – as happened with Congonhas Airport in downtown São Paulo 50 years ago – the reorganisation of Brazilian air traffic, with the redistribution of flights to other airports or even the construction of a new, large airport near São Paulo, will become inevitable. Until then, São Paulo International Airport-Guarulhos will expand to its fullest possible extent.



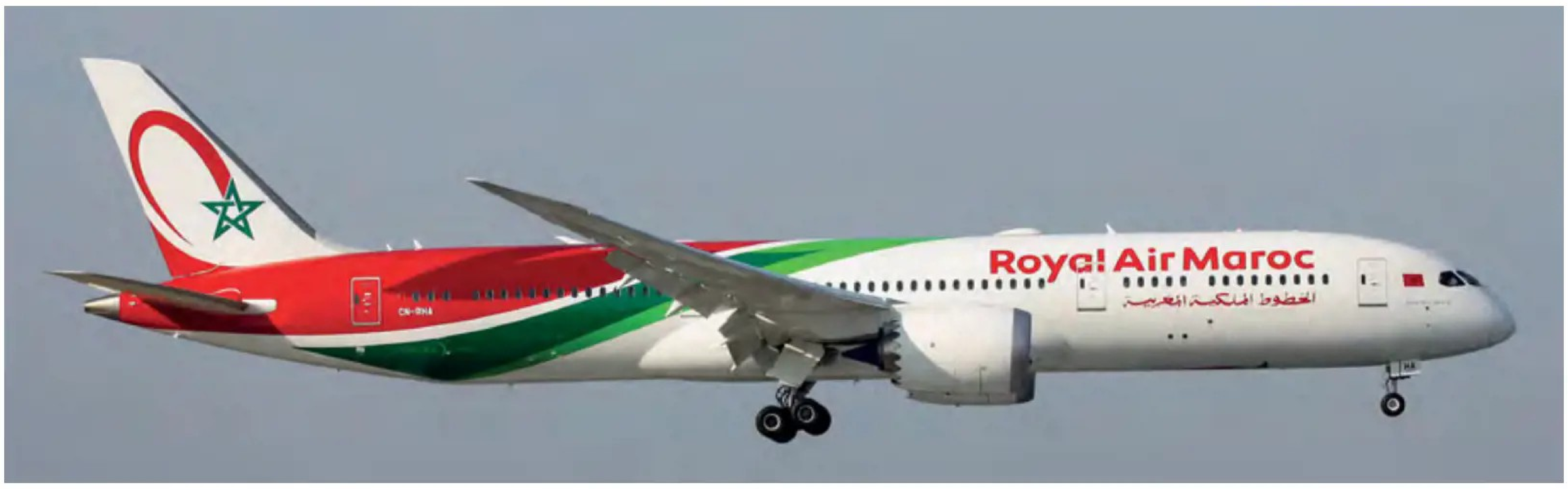
Ukrainian giant AN-225 blocked the taxiway and remained parked in front of the control tower due to a lack of appropriate space on the ramp

AT THE FENCE

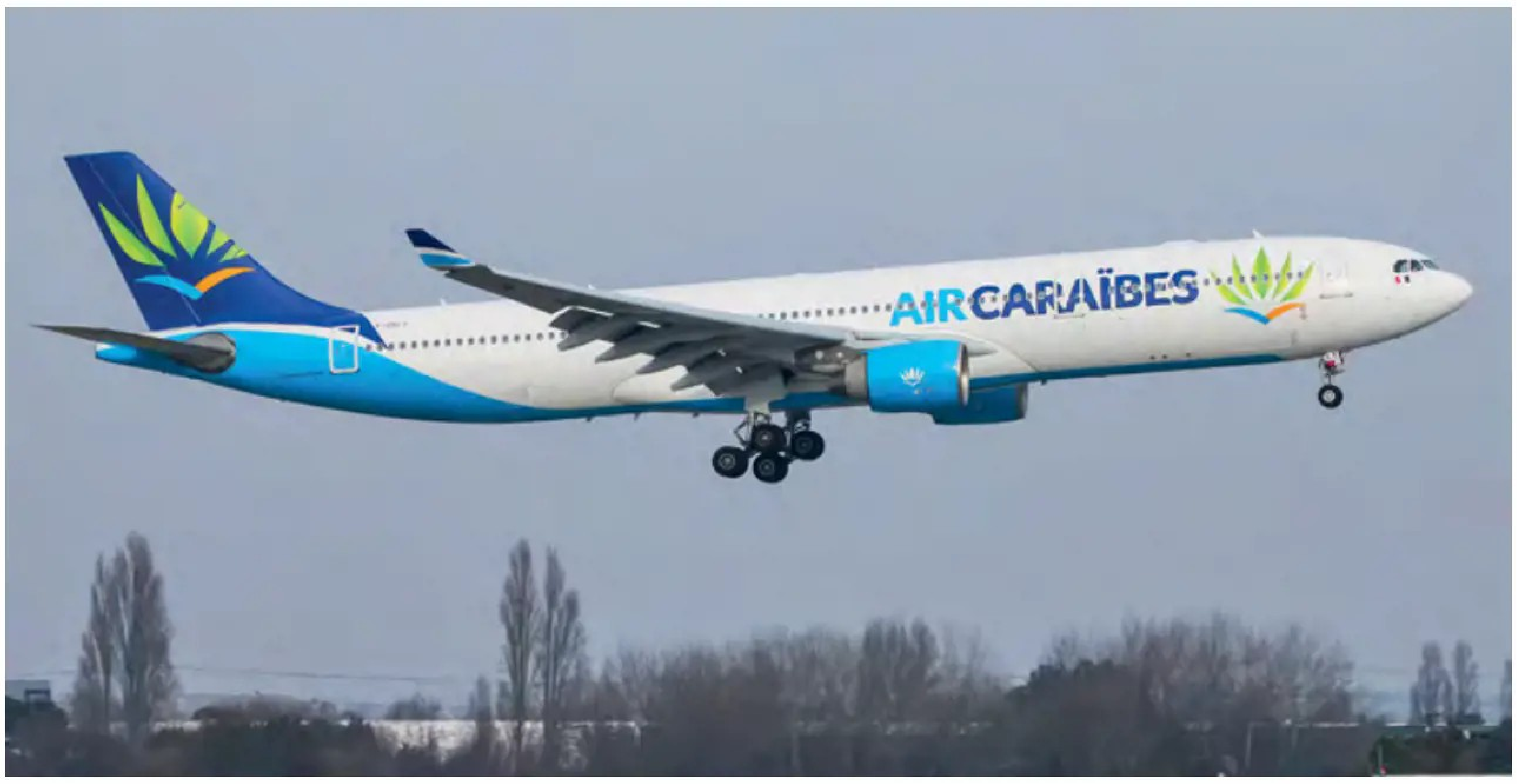
Ethan Jellyman recently captured some movements outside the fence of Paris Orly Airport (LFPO), one of the three airports serving the French capital



Air Algérie operate multiple daily flights to Paris Orly and Charles de Gaulle airports using Airbus A330 and Boeing B737 aircraft. 7T-VJV Airbus A330-202 named '*Tinhinan*' is pictured arriving into Orly as 'AH4004' from Algiers All images Ethan Jellyman

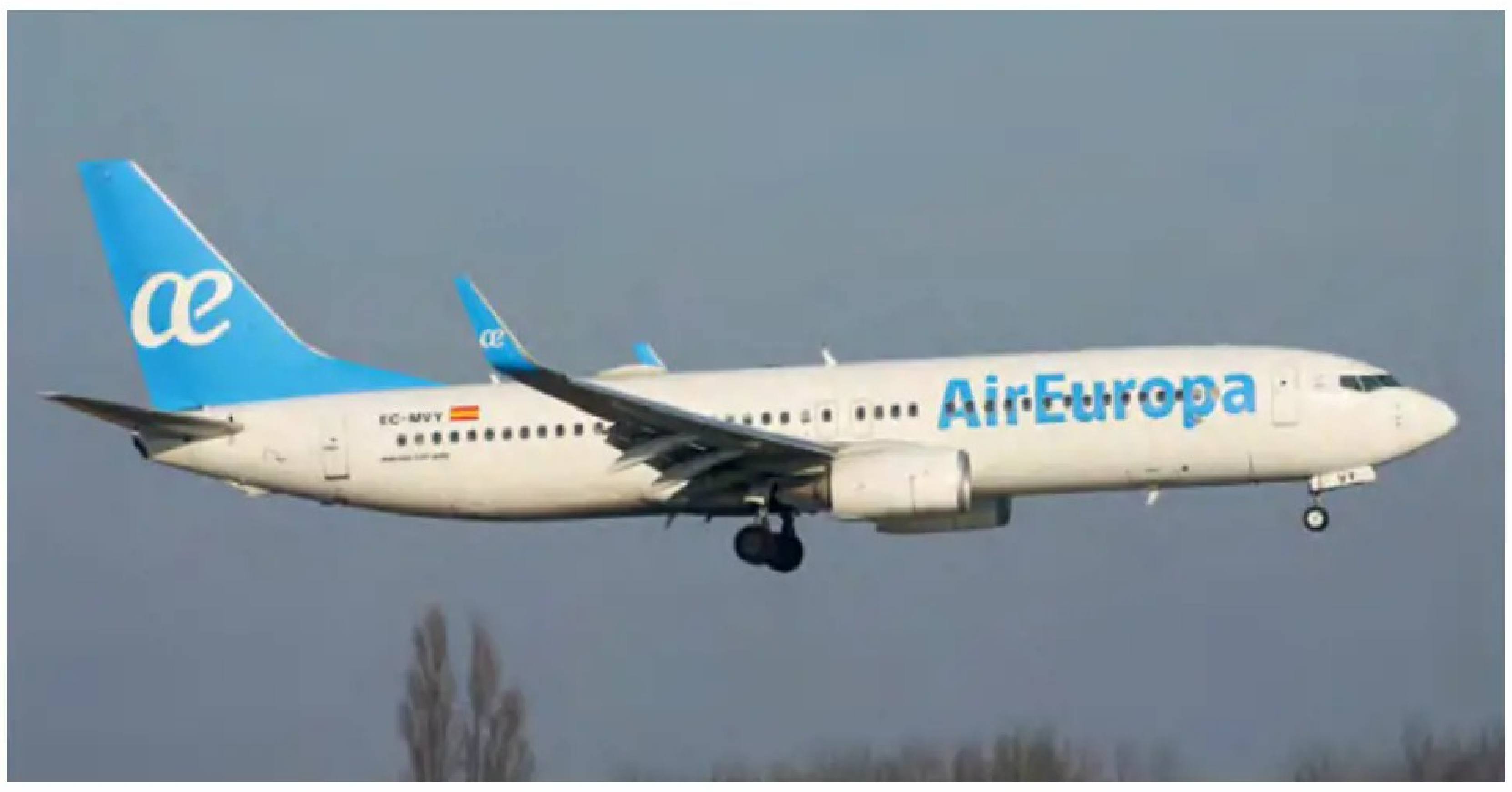


With its strong connections to Morocco and Algeria, airlines from these countries are regular visitors to Paris and use a variety of types including wide bodies. Looking resplendent in the company's latest livery, recently delivered Boeing 787-9 CN-RHA is seen over the keys on runway 06 at Paris Orly

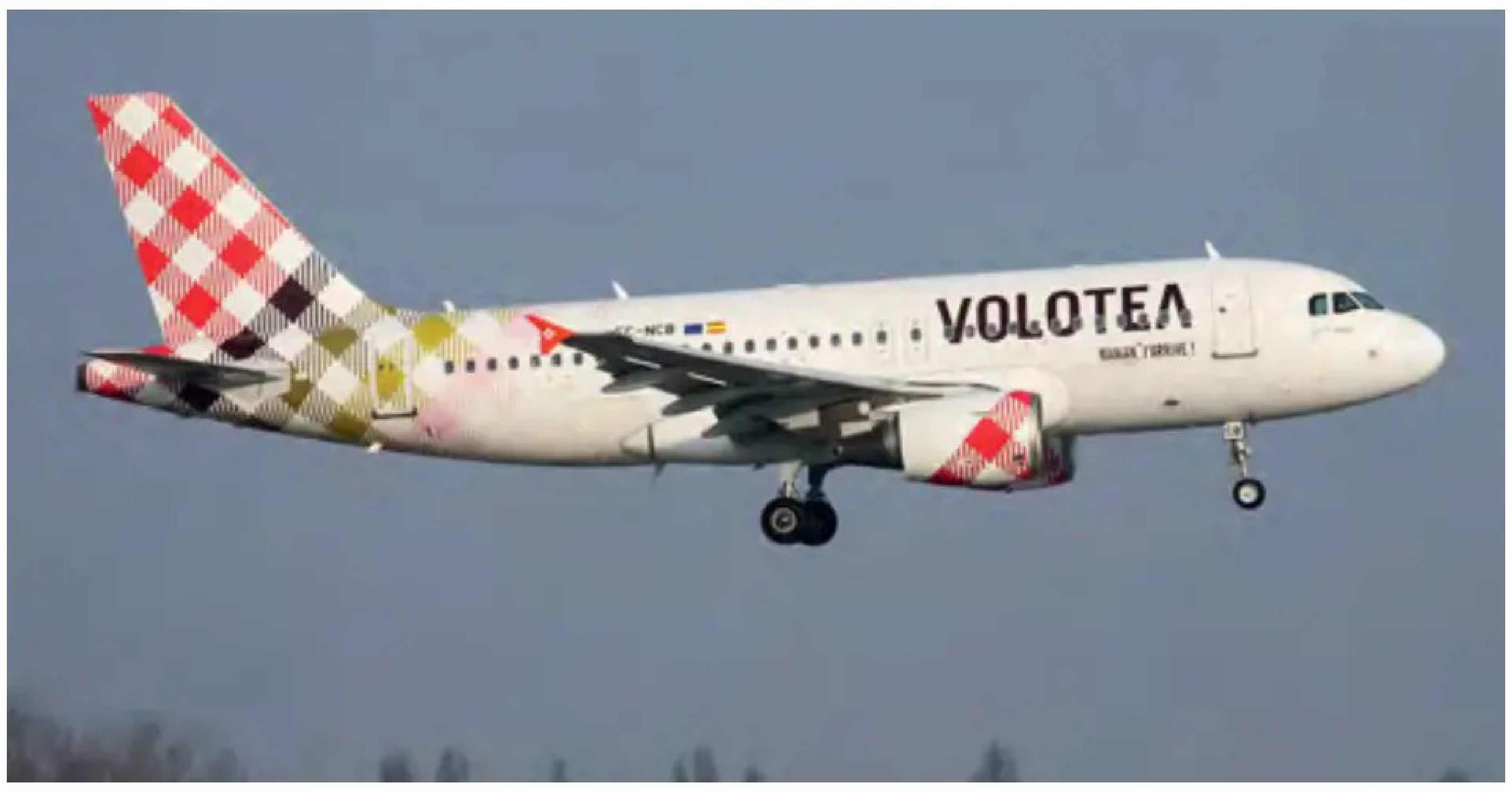


With its appropriately given registration, F-ORLY of Air Caraïbes, an Airbus A330-323, is pictured arriving from Fort de France Airport, Martinique

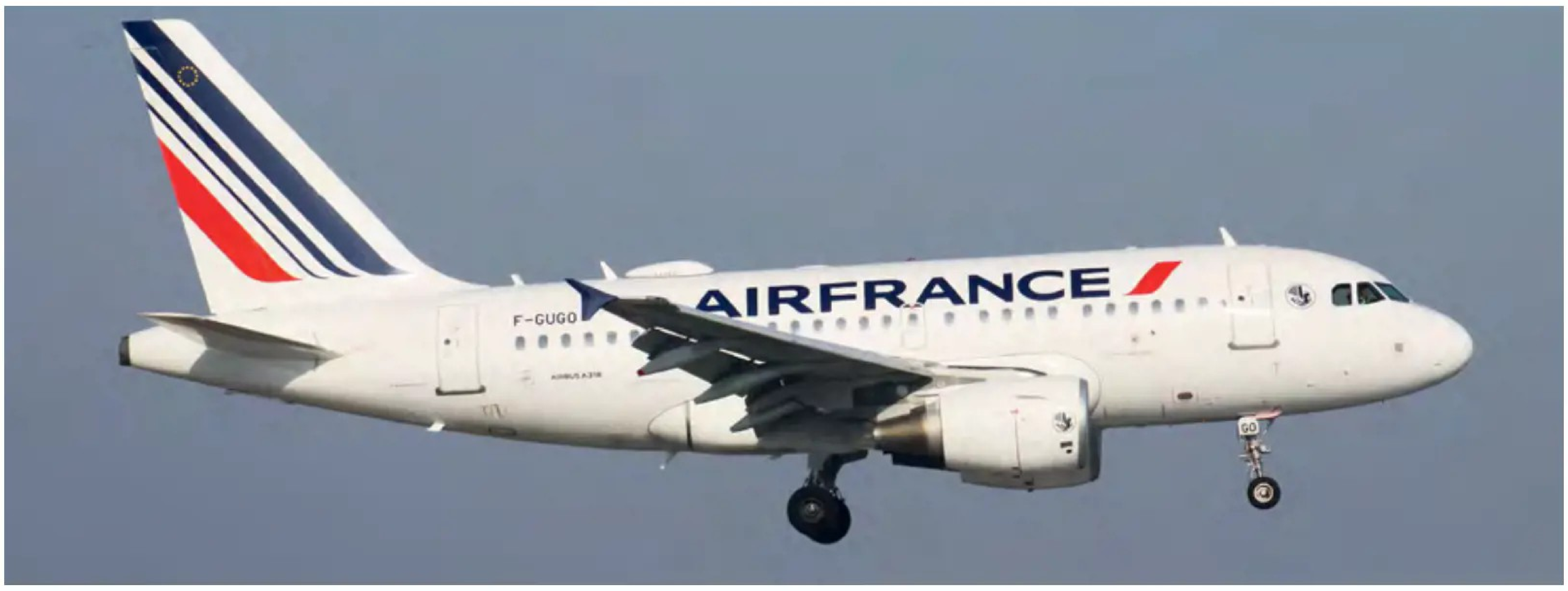
Air Europa of Spain's EC-MVY Boeing 737-800 is one of 26 of the type currently operated by the airline

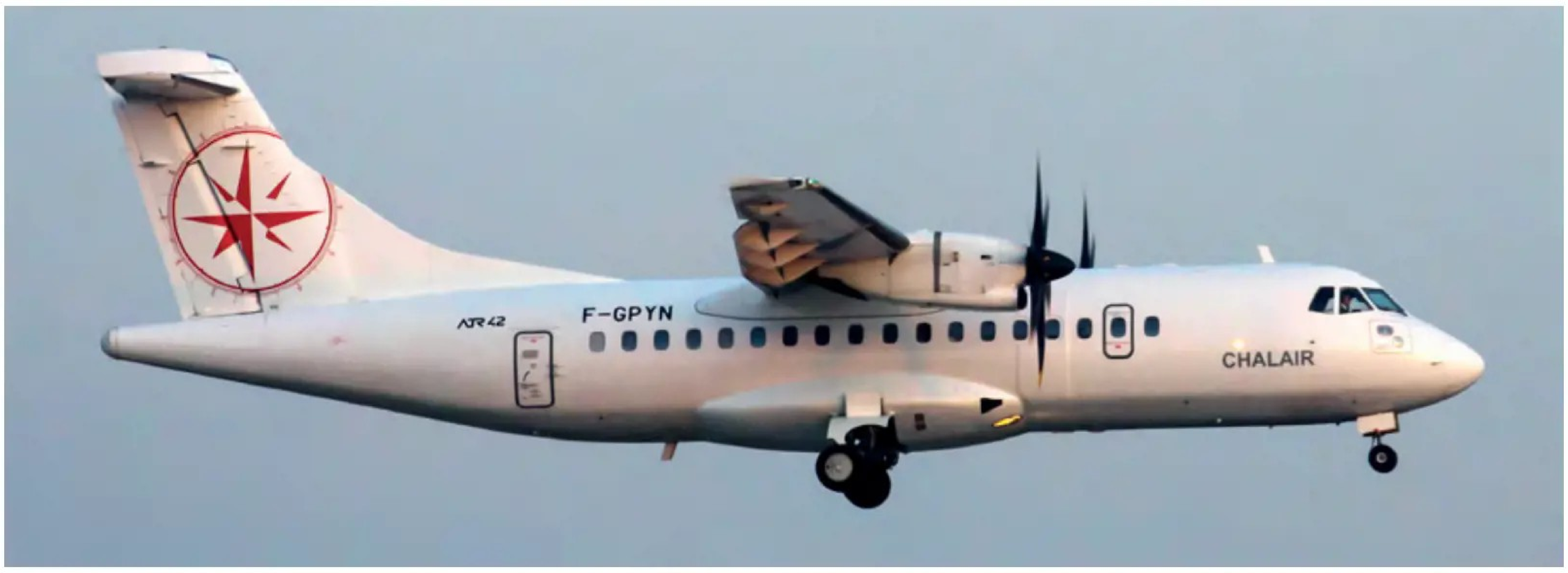


Volotea A319s can be seen daily at Paris Orly on routes from within France. EC-NCB Airbus A319-100 named '*Voyage/Voyage*' previously flew with easyJet before joining Volotea in January 2019



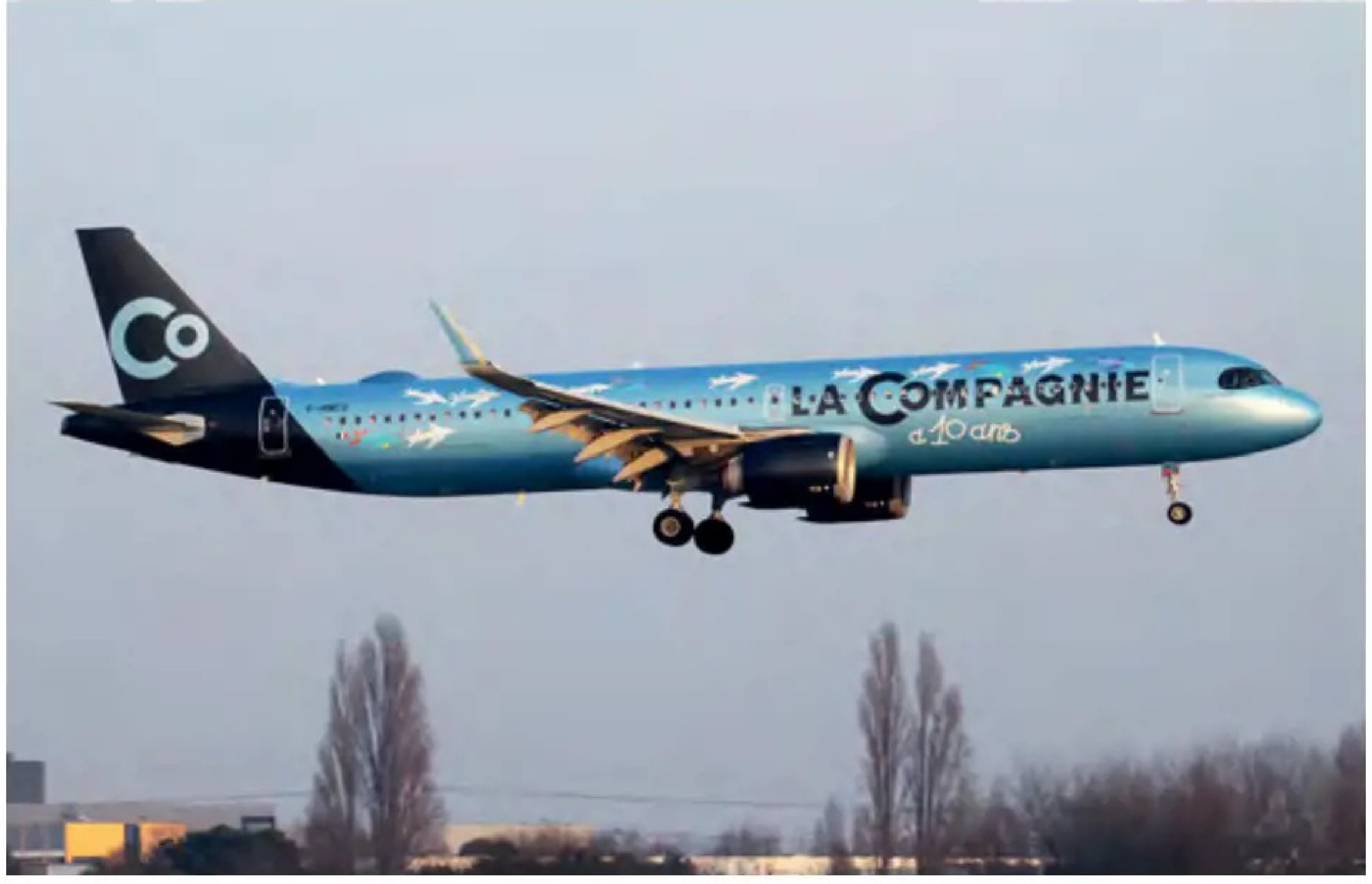
Becoming somewhat of a rare breed these days, the smallest of the Airbus A320 family, the A318. Out of a total of 18 delivered to Air France, just five remain in active service. F-GUGO Airbus A318-111 of Air France is seen on short final for runway 06


AIRFRANCE
F-GUGO


F-GPYN
ATR 42
CHALAIR

F-GPYN ATR-42-500 of Chalair Aviation pictured arriving at Orly moments before sunrise. The airline operated a mixture of ATR-42 and 72 equipment

F-HREU Airbus A350-941, in the beautiful colours of low-cost long-haul carrier French Bee, is pictured arriving from Newark, New Jersey


LA COMPAGNIE
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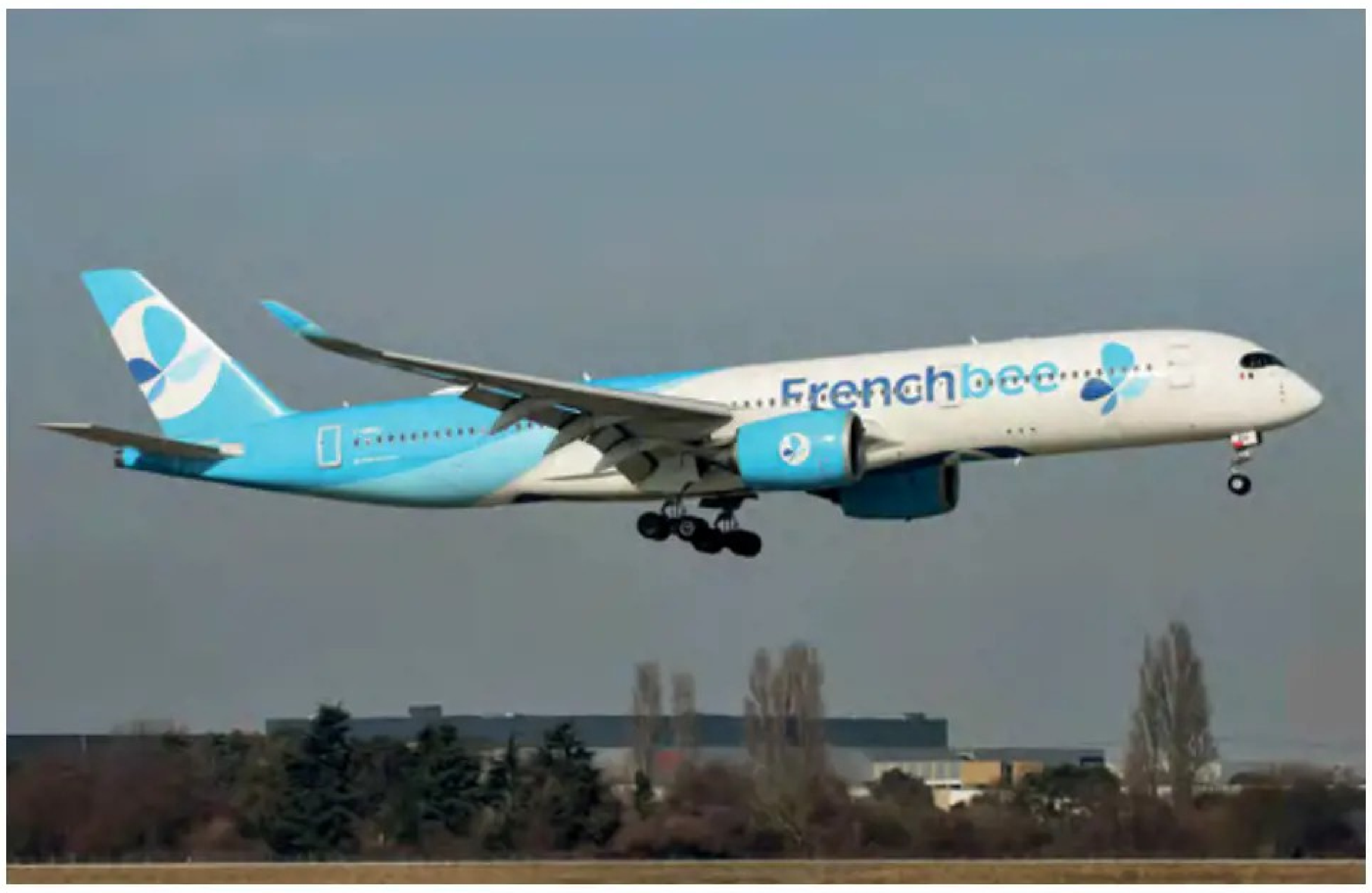
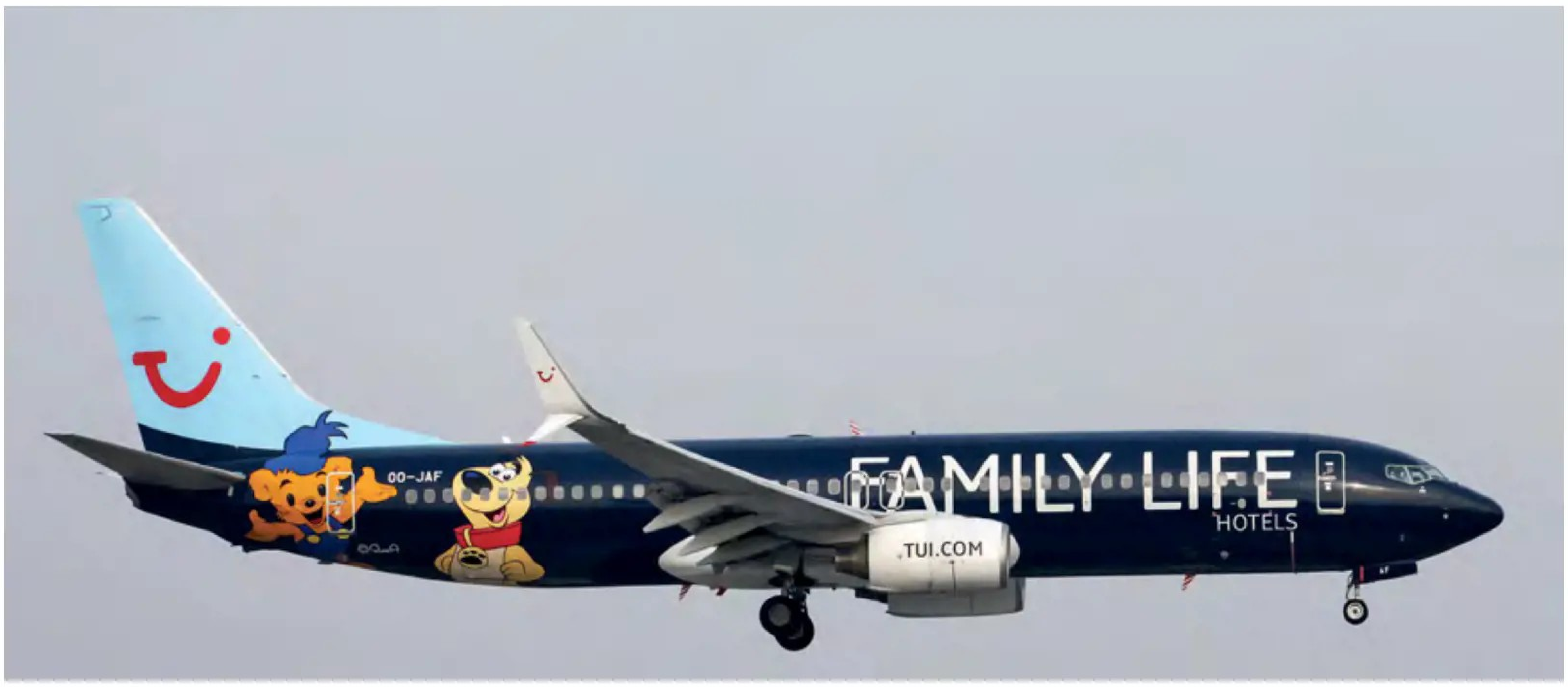


An early morning arrival at Orly from Newark, New Jersey, F-HNCO Airbus A321-252NX of La Compagnie wearing special tenth anniversary markings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OO-JAF Boeing B737-8K5(WL) of TUI Fly Belgium seen sporting a special colour scheme advertising Family Life Hotels

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The system only requires a software update to be rolled out on the E2 ANDREAS SPAETH

Take-off, one of the most critical phases of flight, has traditionally been the domain of pilots. **Edward Paine** examines a new technology from Embraer that seeks to introduce the autopilot to the process

PS-AEP
SLAT
FLAP
COCKPIT DOOR CONTROL

Automation plays a role in virtually every aspect of modern aviation, from the cruise to the landing, but the moment when an aircraft leaves the ground has remained firmly under human control. That is, until now. Embraer's Enhanced TakeOff System (E2TS) represents a pivotal step towards changing this dynamic, promising to optimise performance, enhance safety and reduce pilot workload without altering the essence of the take-off process. Fundamentally, Embraer said the technology aims to make the lift-off manoeuvre "precise and consistent" by enabling the autopilot to be engaged on the ground.

The E2TS system, introduced on the Brazilian airframer's E2 jets, marks the first application of software that could eventually be adapted for any aircraft. Embedded within the aircraft's fly-by-wire architecture, E2TS operates via three flight control computers and leverages data from four smart probes to execute precise take-off manoeuvres with the autopilot engaged.

Safety remains the cornerstone of the system's design. By automating the critical rotation phase – the moment the aircraft transitions from ground roll to flight – E2TS provides a level of precision that cannot be precisely and reliably replicated by human pilots, Embraer said. The system consistently rotates the aircraft at the exact speed required, minimising deviations and ensuring optimal performance even in challenging conditions such as crosswinds or after an engine failure. "The system will rotate the aeroplane to the perfect pitch when you lose an engine," said Luís Carlos Affonso, Embraer's senior vice-president of engineering and technology development. "It is more precise than the pilot, so it will extract the maximum performance of the aeroplane in a one-engine-inoperative scenario."

In this failure scenario, for instance, the system adjusts to achieve the perfect pitch angle, a task that typically demands extensive pilot training. "It reduces pilot workload," said Patrice London Guedes, who has been working as the technical lead on the E2TS project since its inception. "The system has a high accuracy. E2TS will always rotate the aircraft at the same rotation speed with very few deviations. Therefore, the system is more precise and consistent than a human pilot."

Simulations conducted by Embraer have demonstrated the system's robustness under

▲ Embraer's E2TS is designed to automate the take-off procedure to optimise performance, enhance safety and reduce pilot workload EMBRAER

▼ The system was announced at the 2024 Farnborough Airshow KEY-THOMAS HAYNES

E2
PROFIT HUNTER
E195-E2
PR-ZIQ

E195-E2
EMBRAER
E2
E190-E2
E2
E175-E2

E2TS is only available on Embraer's E2 family of aircraft EMBRAER

demanding conditions, including crosswinds of up to 30kts. Embraer said the tests confirm that E2TS not only enhances safety but also provides a smoother and more consistent take-off experience.

Unlike some emerging aviation technologies, E2TS is not reliant on artificial intelligence (AI). According to Embraer, the absence of AI simplifies the certification process, as current regulations lack frameworks for certifying AI-based systems. Instead, the system relies on rigorously developed control laws – a fixed set of rules optimised through thousands of simulated take-offs to ensure consistent, high-precision performance. "E2TS is not an autonomous system," said Affonso. "The same way you have an autopilot in the aeroplane, and even an auto landing, Embraer is now introducing the auto take-off. It is an autopilot system, but it's not autonomous."

E2TS is designed to deliver more than just safety benefits – it also enhances operational efficiency. The system's precise control allows it to optimise take-off performance, especially for longer aircraft operating on short runways. "With E2TS, there is a pitch limitation in order to avoid a tail strike. However, as soon as the aircraft gets away from the ground, it is possible to use a higher pitch angle," noted Guedes.

By incrementally increasing the pitch angle once airborne, E2TS reduces the distance needed to reach the required screen height – the height that an aircraft must achieve after take-off, equating to 35ft on a dry runway, which is used as a measure of aircraft performance for certification purposes. This capability opens up several possibilities for operators: increased payloads, extended range or thrust reduction (reduced engine stress during take-off can lower fuel consumption and maintenance costs). "This system will increase pitch in a continuous way," continued Guedes. "Therefore, the aircraft will reach the screen height earlier compared to the conventional take-off performance by a human pilot. It is then possible to convert this take-

The capability of the system is particularly focused on performance-limited airports such as London/City, Florence and Rio de Janeiro's Santos Dumont LONDON CITY AIRPORT/ANDREW BAKER

off distance decrease to a take-off weight increase. This allows a higher range for the same payloads, or a higher payload for the same route, or even just a thrust reduction."

With these benefits, E2TS has been positioned as a valuable tool for airlines seeking to maximise operational flexibility and cost efficiency out of restricted airports. Operators at performance-limited hubs such as London/City, Florence and Rio de Janeiro's Santos Dumont in Embraer's home nation are likely to see the most benefit from the E2TS. Embraer said the system can add another 400 miles range for equipped aircraft, stretching the destination map for an E2 aircraft operating out of London/City as far as Istanbul and North Africa.

Another significant advantage of E2TS is that it can be retrofitted. Embraer has ensured that existing E2 aircraft can adopt the technology with minimal disruption. Implementation requires only a software update, and pilots need just half a day of ground school training to familiarise themselves with the system. Importantly, E2TS does not require changes to standard operating procedures (SOPs), maintaining a sense of familiarity for flight crews. "The SOPs are absolutely the same, the call outs are the same, in fact the only thing you have to do is focus on not rotating the aeroplane, to allow the aeroplane to rotate itself, because if you rotate it, the system will disengage," said Affonso, who was involved in flight testing the system.

Explaining the procedure for the flight crew, he continued: "You advance the throttles and after a certain TLA [thrust lever angle], the autothrottle will take control. You make exactly the same call outs. The pilot monitoring says 'speed alive', '80 knots', 'V1', and then you take your hands off the throttle, put the two hands on the yoke, and then the pilot monitoring will say, 'rotate'. But you do not rotate – that's the only difference. The pilots keep their hands on the yoke, and when they say rotate, the autopilot is already engaged, so the autopilot will rotate for you. What is the cue for the pilots? You see the aeroplane rotating, you see the pitch moving through the artificial horizon on the PFD and then the pilot monitoring will say 'positive rate', and the pilot flying will say, 'gear up'. There are only two differences – the pilot must select the system to be turned on through the MCDU (the Multi-Function Control and Display Unit, a keyboard and display interface that pilots use to manage an aircraft's flight plans and other functions), and the pilot must only monitor the rotation."

E190-E2
ZGQ
E2

▲ Unlike some emerging aviation technologies, E2TS is not reliant on artificial intelligence
EMBRAER

Certification for E2TS is already under way. Brazil's National Civil Aviation Agency (ENAC) approved the system's certification plan in January 2024, and Embraer is working closely with the European Union Aviation Safety Agency (EASA) and the US Federal Aviation Administration (FAA) to secure global approval.

Airbus alternative

European manufacturer Airbus has also been working on similar technology since 2018, dubbed the Autonomous Taxi, Take-Off & Landing (ATTOL) project. Under this programme, automatic take-off is enabled by image recognition technology installed directly on the aircraft, rather than relying on an Instrument Landing System (ILS), the existing ground equipment technology currently installed at most airports around the world. In 2020, at the European manufacturer's Toulouse headquarters, the company

▼ Certification for E2TS is already under way with Brazil's ENAC approving the system's certification plan in January 2024, and Embraer is working closely with EASA and the FAA to secure global approval
KEY-THOMAS HAYNES

PROFIT HUNTER
E195-E2
E2
PR-ZIO

performed a fully automatic vision-based take-off using an Airbus A350-1000 test aircraft. The crew conducted a total of eight take-offs over a period of four-and-a-half hours.

"The aircraft performed as expected during these milestone tests. While completing alignment on the runway, waiting for clearance from air traffic control, we engaged the autopilot," said Airbus test pilot Captain Yann Beaufils. "We moved the thrust levers to the take-off setting and we monitored the aircraft. It started to move and accelerate automatically, maintaining the runway centre line, at the exact rotation speed as entered in the system. The nose of the aircraft began to lift up automatically to take the expected take-off pitch value and a few seconds later we were airborne."

Addressing concerns that the industry is positioning the technology as an enabler of single-pilot operations, Airbus has stressed that its mission is "not to move ahead with autonomy as a target in itself, but instead to explore autonomous technologies alongside other innovations in areas such as materials, electrification and connectivity". But the company added: "By doing so, Airbus is able to analyse the potential of these technologies in addressing the key industrial challenges of tomorrow, including improving air traffic management, addressing pilot shortages and enhancing future operations. At the same time, Airbus is leveraging these opportunities to further improve aircraft safety while ensuring today's unprecedented levels are maintained."

Indeed, while Embraer's E2TS offers clear advantages, its introduction raises similar questions about the evolving role of automation in aviation. By taking over a critical aspect of flight traditionally handled by pilots, the system challenges the industry to reconsider the balance between human expertise and technological innovation. Some sceptics may question whether automation in take-off could erode pilot skills over time. However, Embraer emphasised that E2TS is designed to complement, not replace pilot capabilities. The system provides a fail-safe option, allowing pilots to intervene and take manual control if needed. Moreover, the absence of AI ensures that the technology is predictable, transparent and adheres to established safety standards.

Pricing for E2TS has yet to be finalised, but its potential benefits make it an attractive proposition for airlines. By improving safety and efficiency, the system could yield long-term savings through reduced training costs, optimised fuel usage and enhanced aircraft performance. E2TS represents a significant milestone in aviation technology, marking the first step towards automating take-off while maintaining high standards of safety and reliability. As the system undergoes additional testing and certification, the industry will watch closely to see how E2TS shapes the future of flight operations. With its focus on safety, efficiency and adaptability, Embraer's Enhanced TakeOff System is poised to transform the take-off experience. AN

▲ **Zurich-based Helvetic Airways operates the E190-E2 on multiple inter-Europe routes** Ben Stanley Hall

▼ **A Binter Canarias Embraer E-195 E2 (EC-NHA) lines up for take-off at Gran Canaria Airport** Ben Stanley Hall

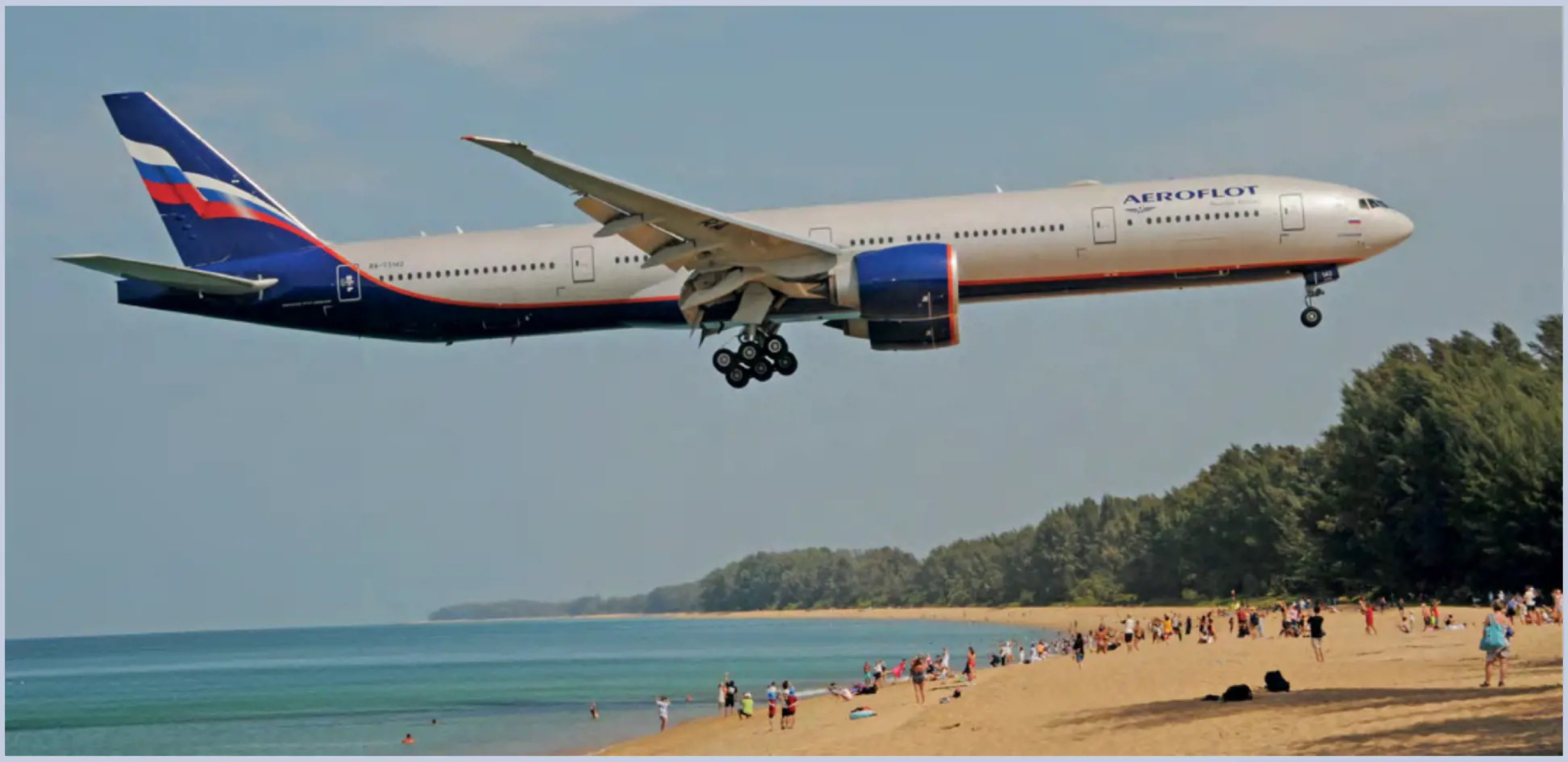
Life's a Beach

Gerry Manning snapped away on Thailand's holiday island of Phuket, home to the third busiest airport in that nation. The first two are situated in the capital Bangkok, Suvarnabhumi and Don Mueang

In 2024 some 17 million passengers arrived at Phuket International Airport with 10 million being international. In the same year the airport saw 103,000 aircraft movements with an almost equal split between domestic and international arrivals. Over 50 airlines from around the world operate here albeit some on a seasonal basis.

There is just one runway; it is 3000m/9843ft long and the headings are 09/27. It is the 09 landing that is most used and arrivals fly low over Nai Yang beach as the runway threshold is right on the edge of the beach. The whole area is part of the Sirinat National Park, so it is an unspoilt area with no buildings or shops on the actual beach area.

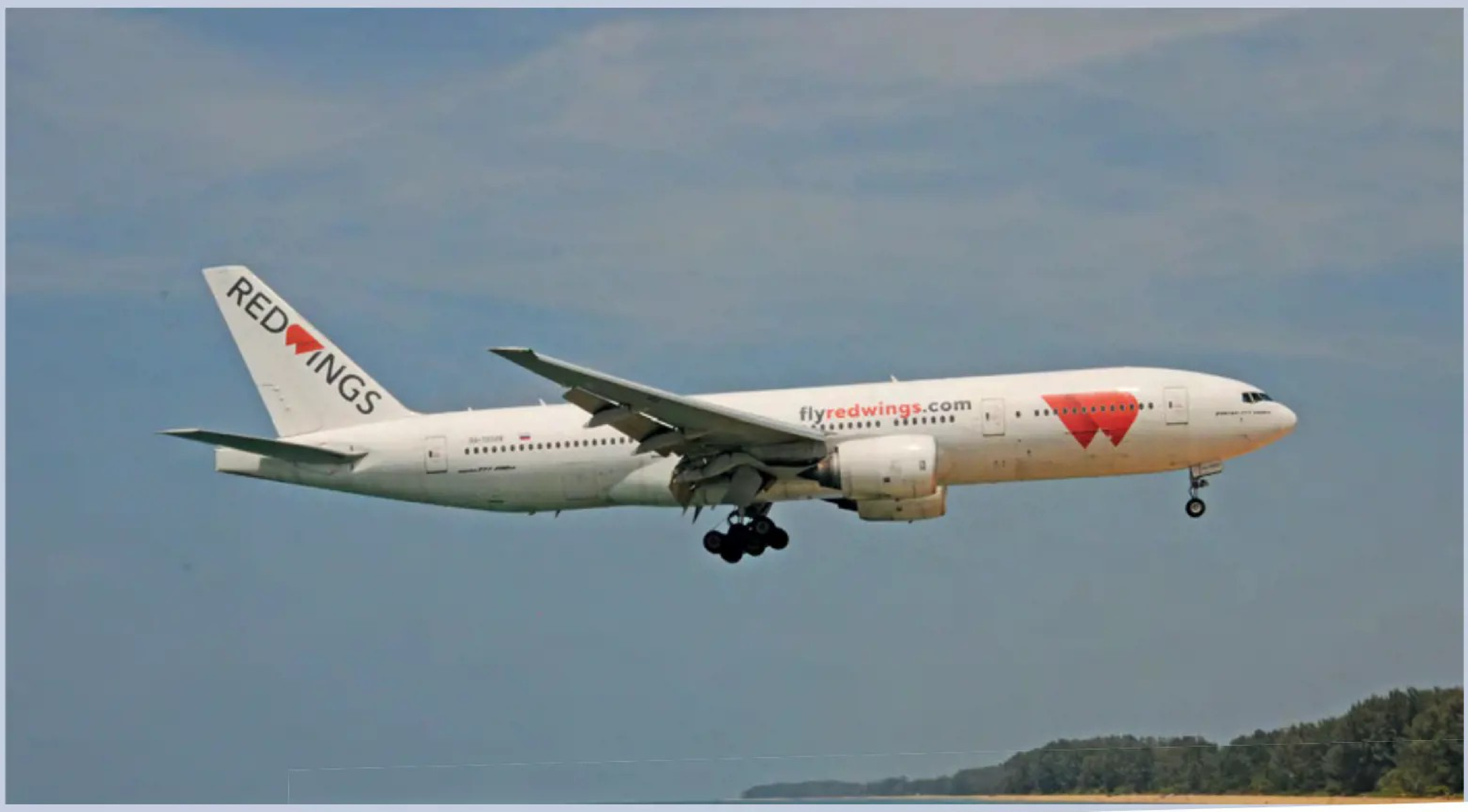
All this makes it one of the finest places on the planet to photograph airliners on their final approach and even the sun is in the right place all day.



With the current restrictions on Russian traffic due to sanctions, the number of nations that Russian holiday makers can travel to is limited. Thailand is one they can visit, and traffic is constant every day. Flag carrier Aeroflot Boeing 777-300(ER) RA-73142 c/n 65311 shows how low they overfly the beach. As well as the 777, the carrier also operated Airbus A321 and A330s into Phuket All images Gerry Manning

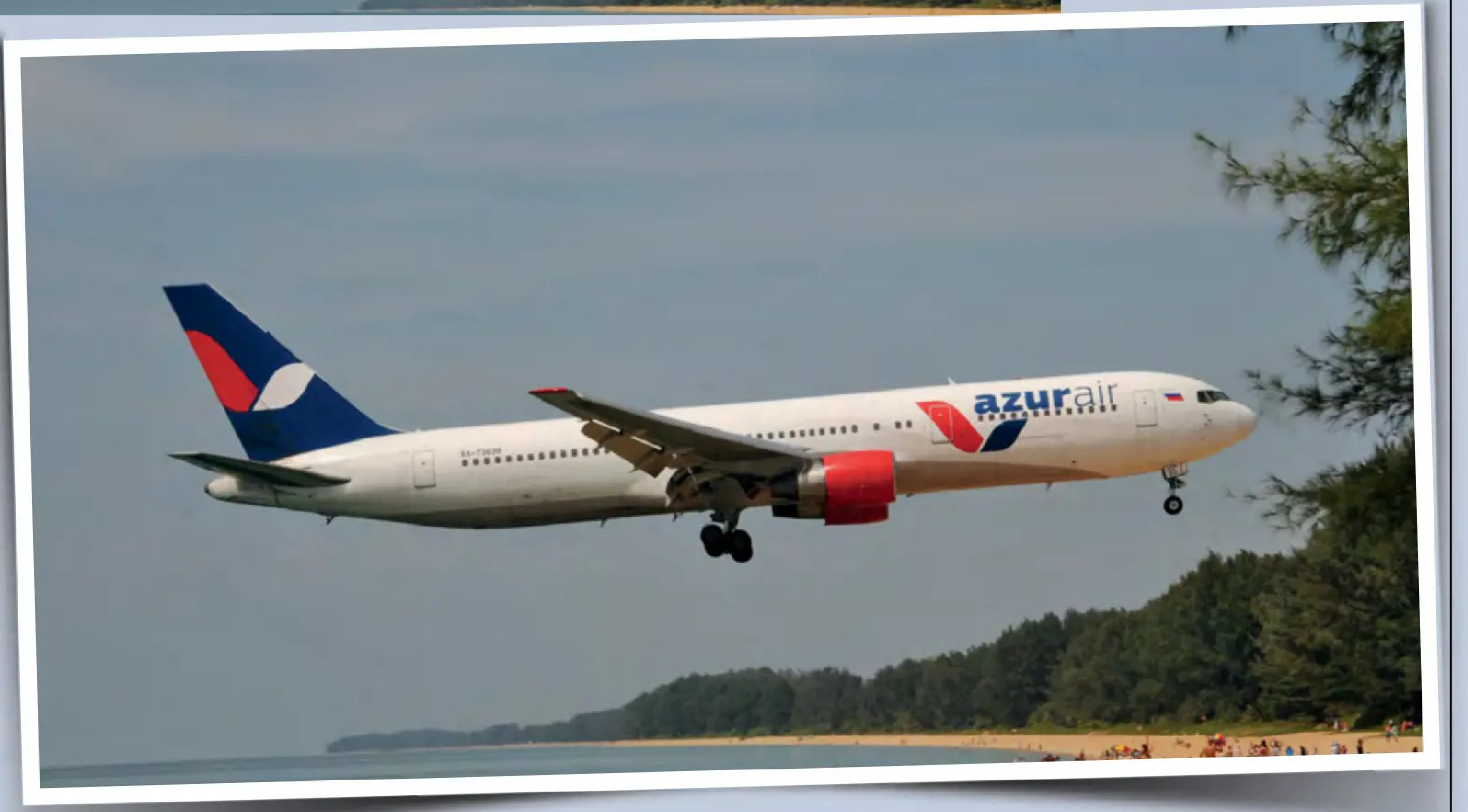
nordwind airlines
IKAR

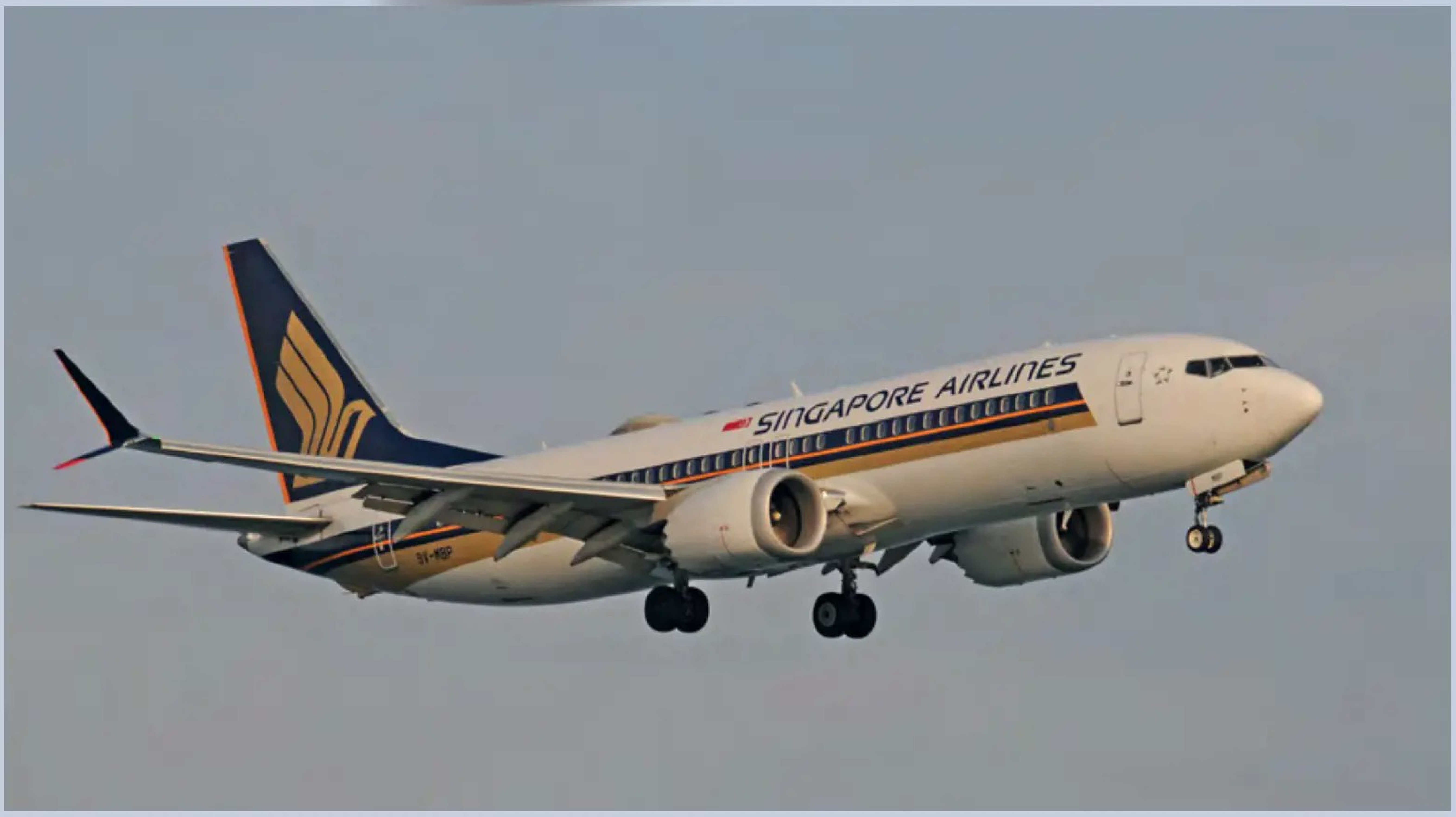
Based at Moscow's Sheremetyevo Airport, Nordwind Airlines operates into Phuket from multiple cities in Russia. Boeing 777-2Q8(ER) RA-73272 c/n 27608 is on final approach



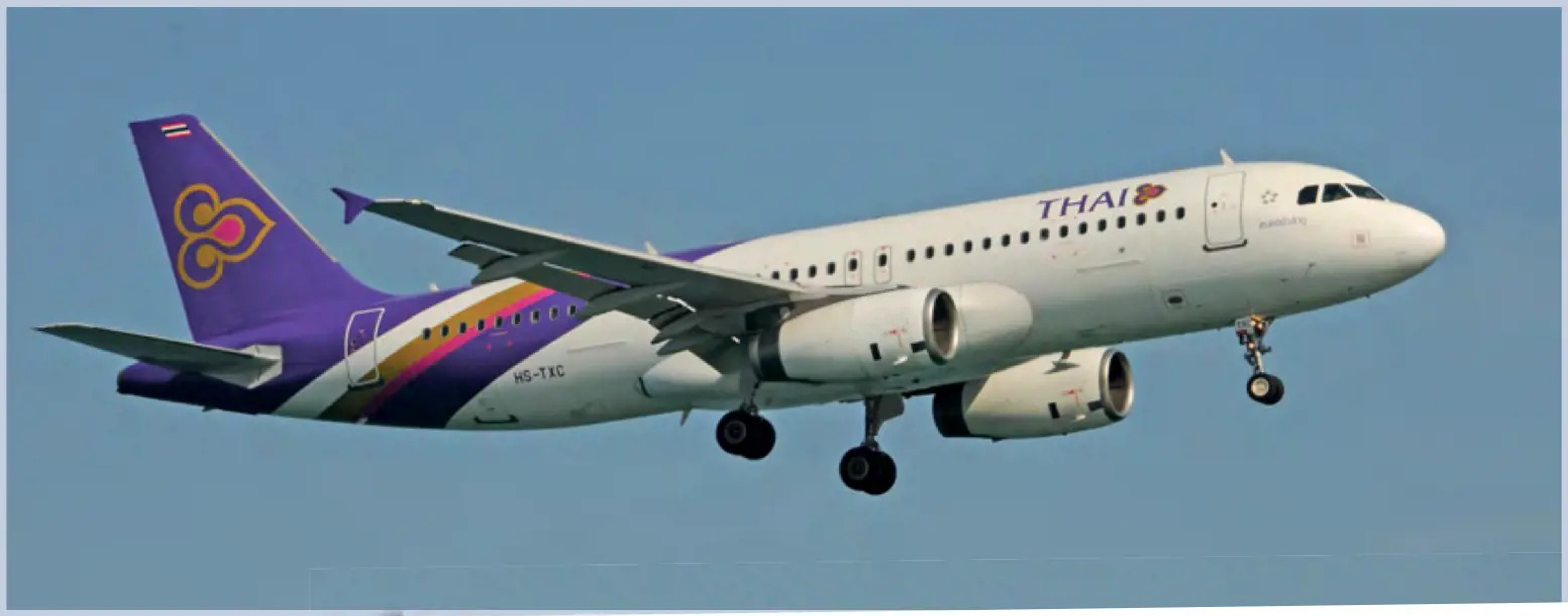
Red Wings Airlines based at Moscow's Domodedovo Airport, operates into Phuket from a number of Russian cities on a seasonal basis. Boeing 777-21H(ER) RA-73329 c/n 27250 to the excitement of the spectators, many of them taking 'selfies' of themselves with a large aeroplane

Azur Air is a Russian holiday charter airline operating from several hubs and flying from them to Phuket on a seasonal basis. Most days several different flights from the carrier would arrive. Boeing 767-3Q8(ER) RA-73030 c/n 24746 is pictured crossing the beach on its final approach

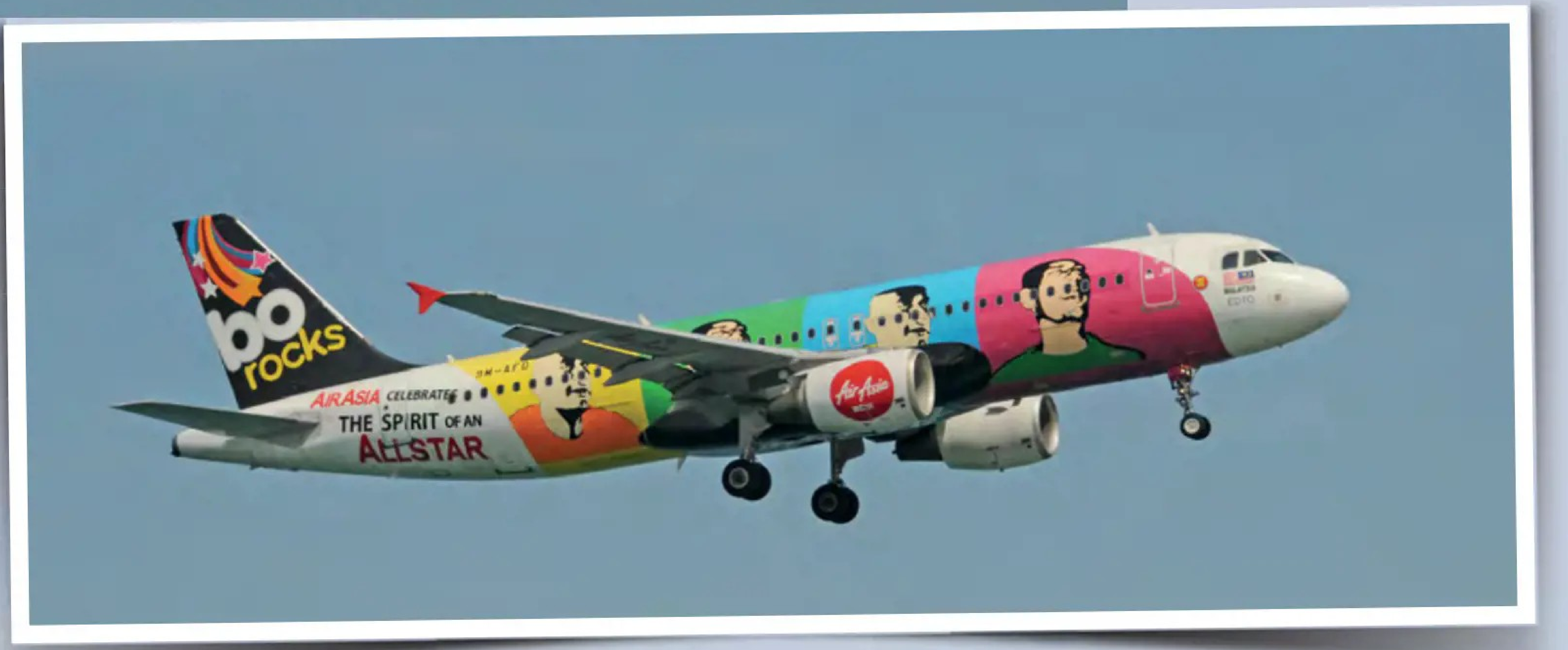




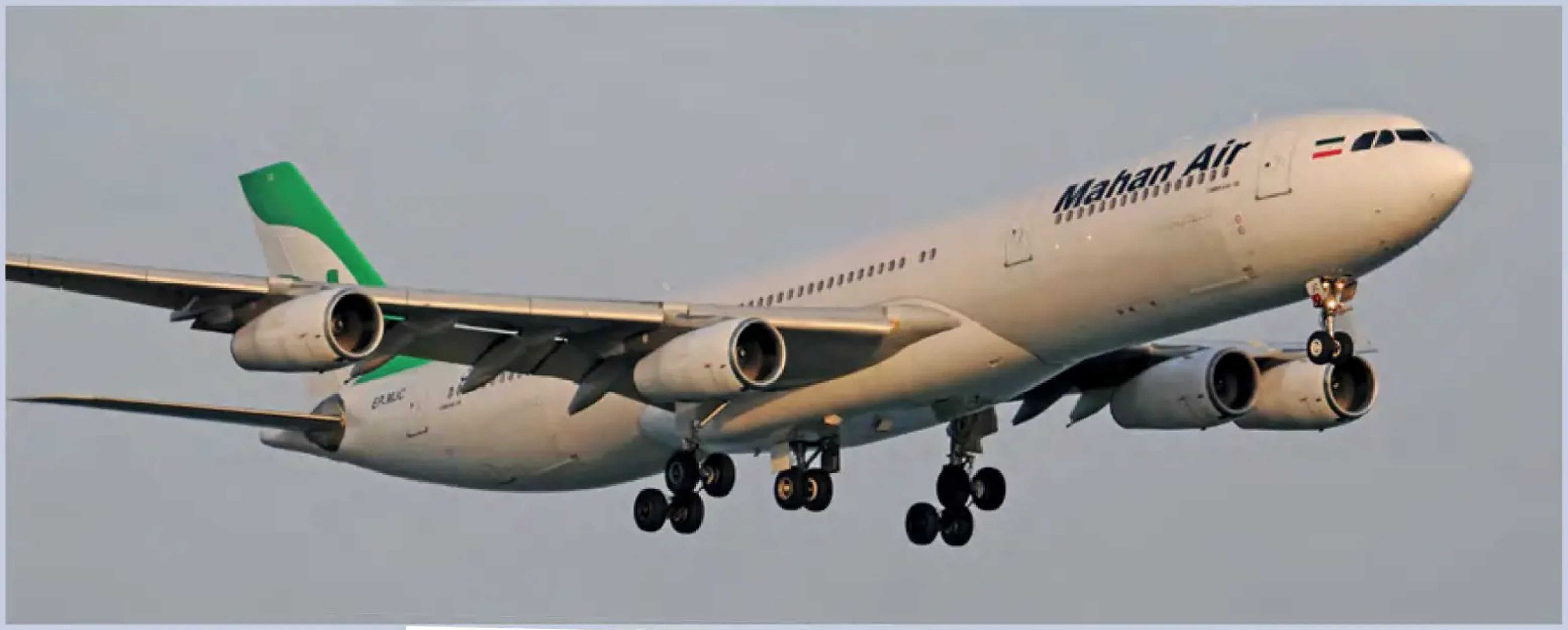
Singapore Airlines, the national flag carrier for the small island nation of Singapore, has a world-class reputation for cabin service and for many years only operated wide-body jets. However, in 2021 they absorbed their low-cost associate company Silk Air into the mainline. They now operate narrow-body aircraft in their own livery. Boeing 737 MAX-8 9V-MBP c/n 44263 is pictured operating one of the several daily flights from the company base



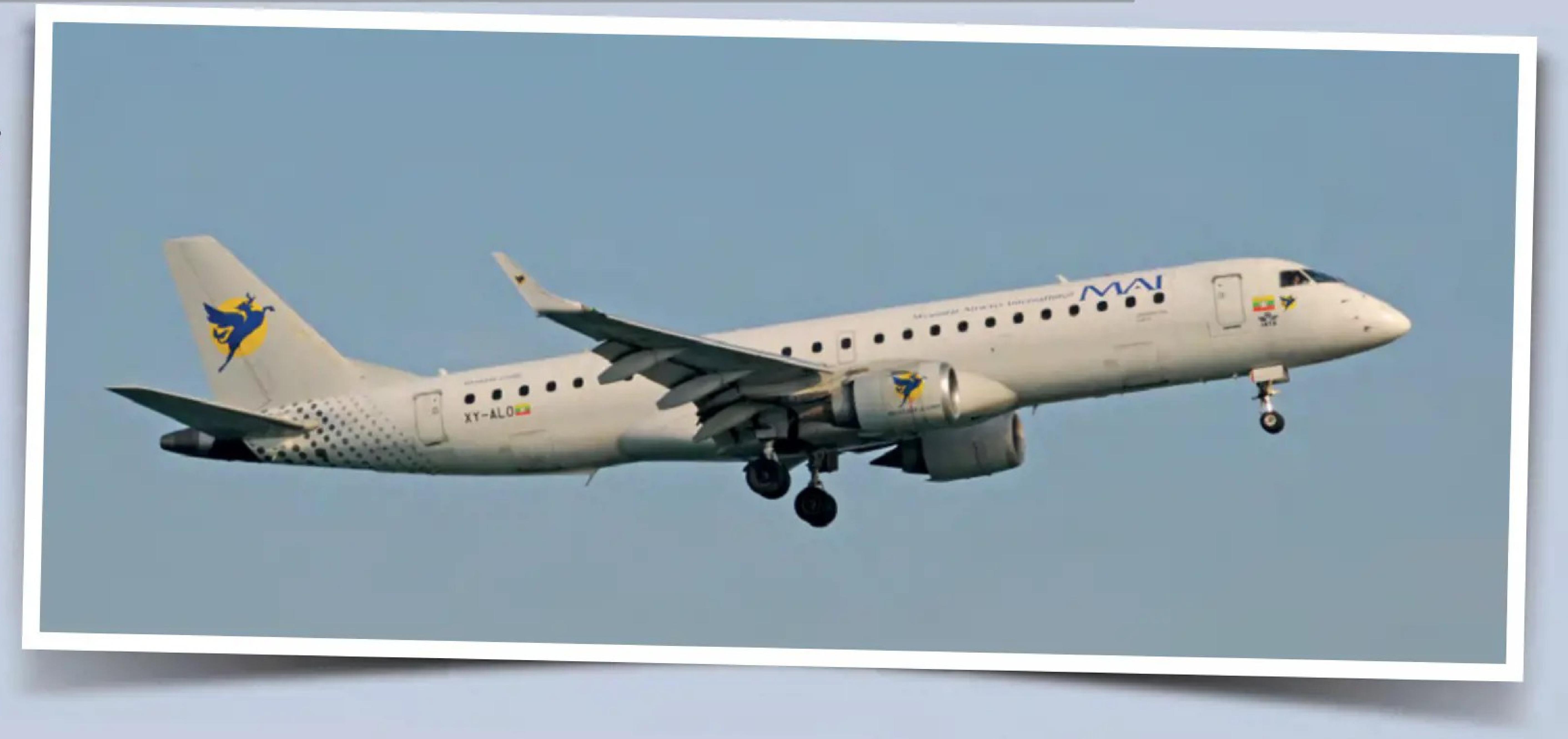
As would be expected, Thailand's flag carrier Thai Airways International operates a few daily flights to Phuket from the capital Bangkok. Airbus A320-232 HS-TXC c/n 5258 shows off the company's smart colours



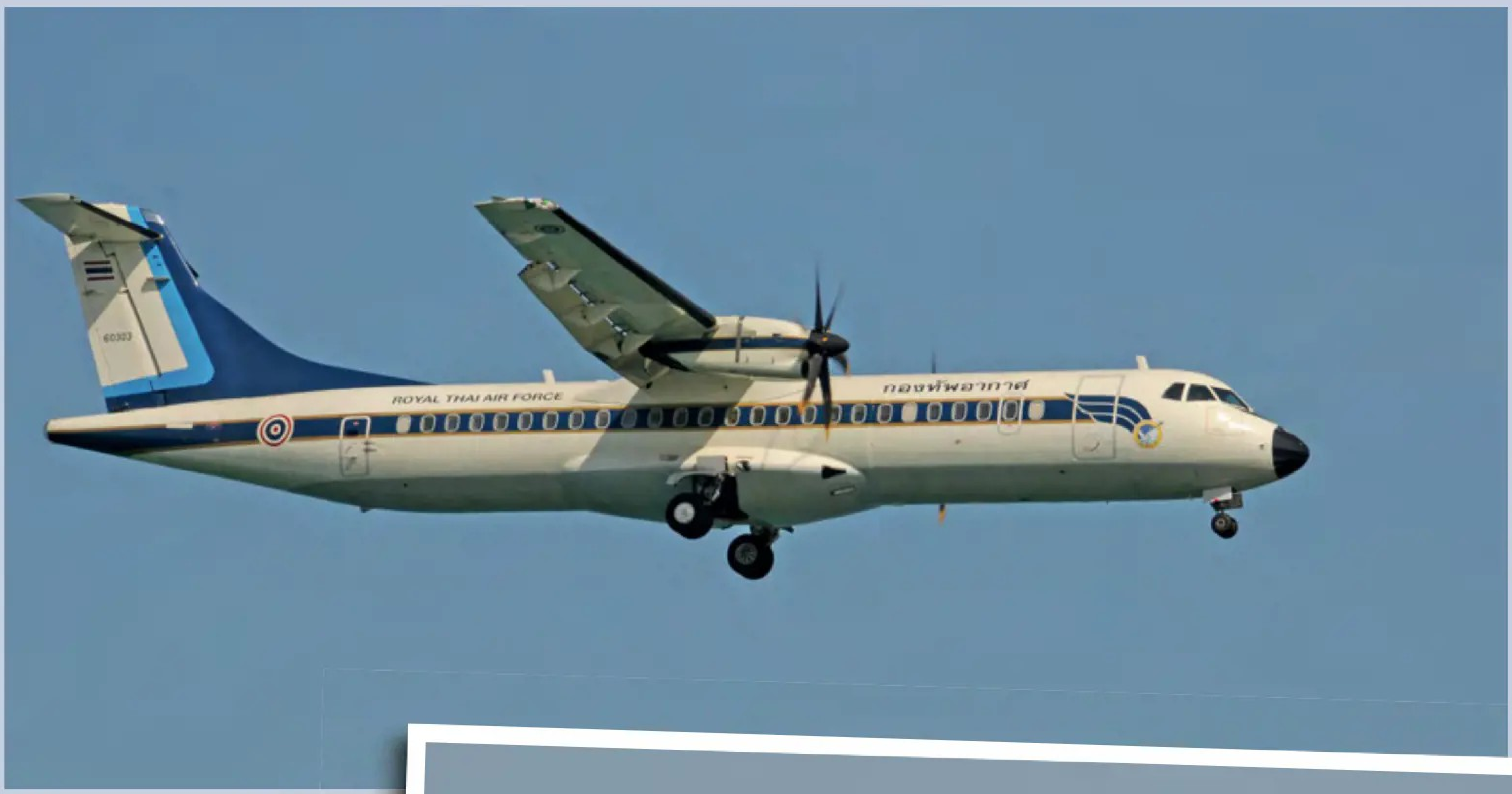
Air Asia is a Malaysian low-cost operator with associate companies in Thailand, Indonesia and the Philippines. Airbus A320-214 9M-AFD c/n 2683 wears special colours in what is called the 'All Star' livery



Tehran, Iran-based Mahan Air is sanctioned by a number of countries and organizations such as the European Union and so its field of operations is limited. Thailand still allows services to both Phuket and Bangkok. Airbus A340-311 EP-MJC c/n 115 is pictured on a seasonal-only service from the company base

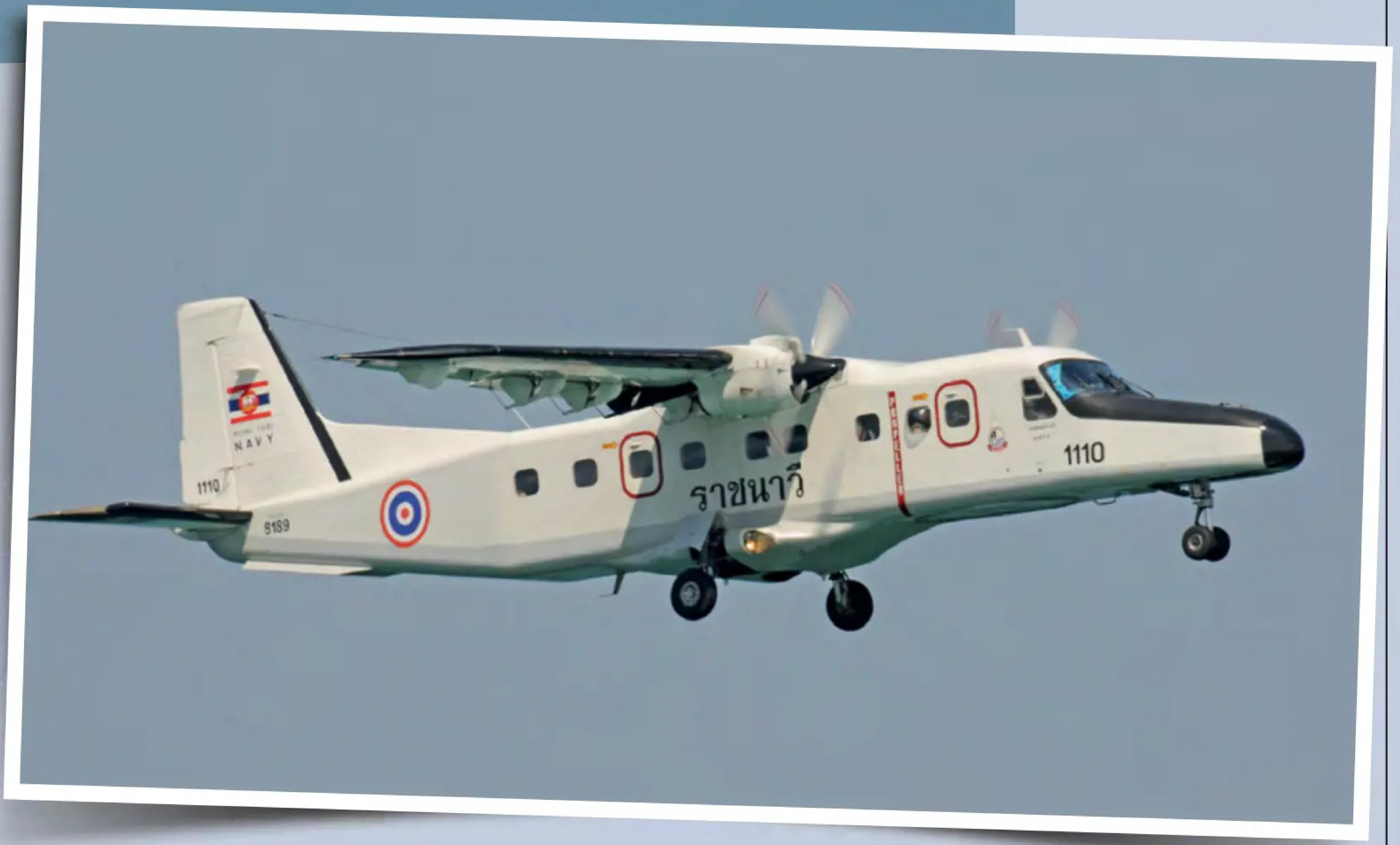


With a history line dating back to 1946, the currently named Myanmar Airways International operates services both domestic and regional international. Embraer E190-100LR XY-ALO c/n 19000529, one of two in the fleet, is seen on final approach on a service from Yangon

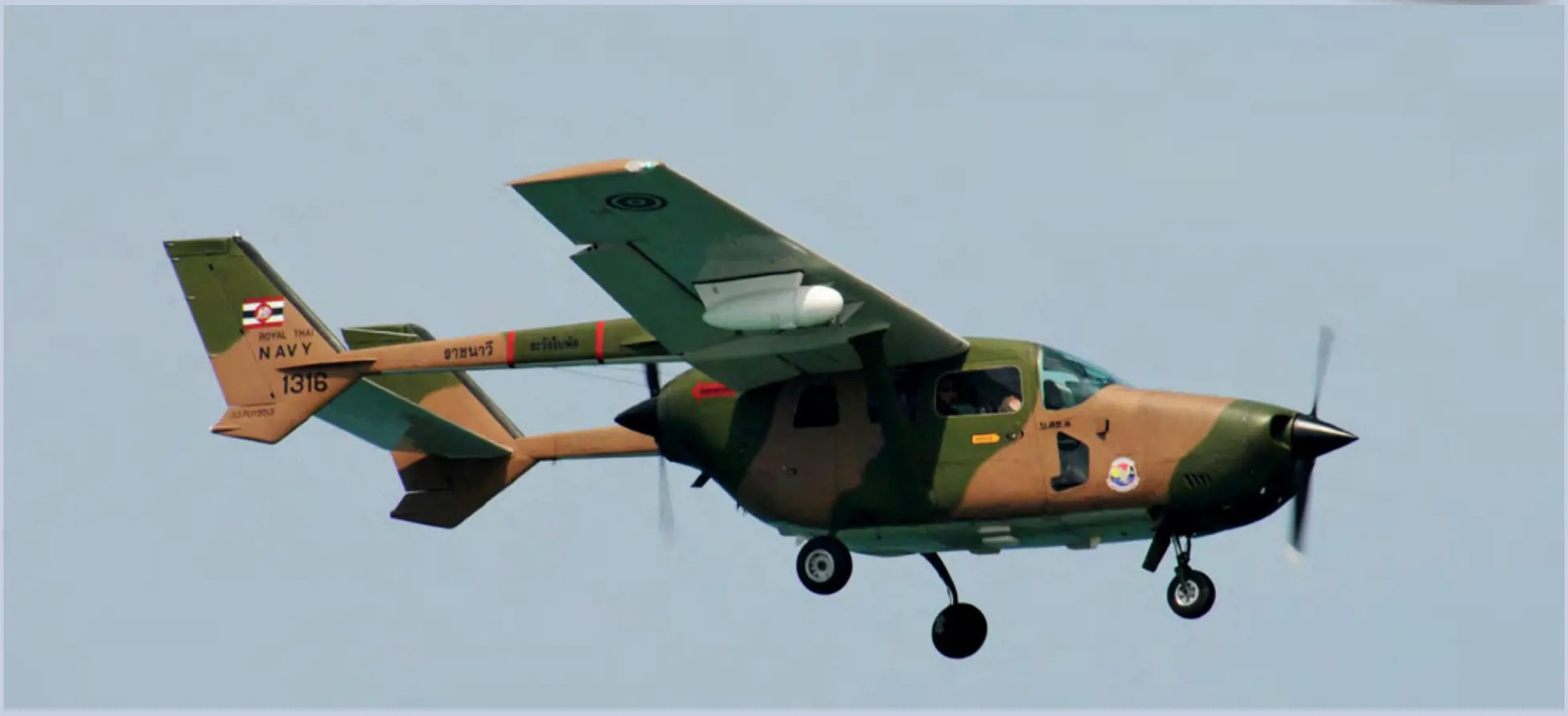


As well as the many airlines that operate into Phuket, the Royal Thai Air Force can often be seen flying various missions. ATR 72-212A serial 60303 c/n 1746 is operated by 603 sqd and based at Don Mueang, Bangkok

The Royal Thai Navy also operate some maritime patrol aircraft. Dornier Do 228-212NG serial 1110 c/n 8189 is operated by 101 sqd



Perhaps the oddest aircraft seen, and by far the smallest, was Cessna T337H-SP Super Skymaster serial 1316 c/n 337-1953. It is operated by 103 sqd of the Royal Thai Navy



Where NATO's Airpower Takes Shape

RAMSTEIN FLAG 2025
NATO
OTAN
ADVANCED AIR COMBAT TRAINING EXERCISE

▲ The official Ramstein Flag 2025 patch, with in the upper right corner the flag of the province of Friesland (Frisia) where Leeuwarden Air Base is located.

DANGER
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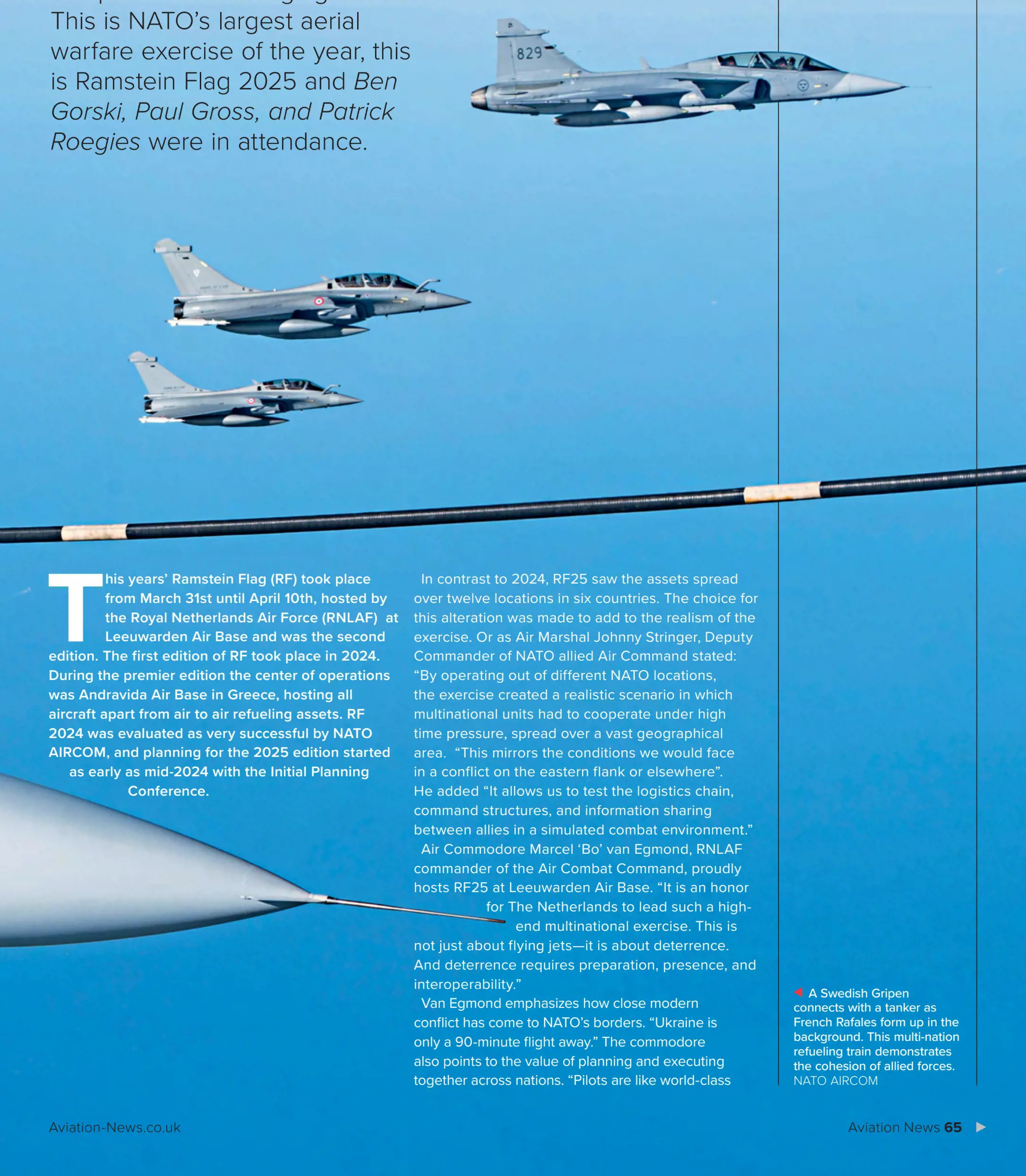
EMERGENCY OPENING

Twice a day almost 100 fighters and support aircraft from fifteen nations took off from twelve locations in six countries to train together in complex and challenging scenarios. This is NATO's largest aerial warfare exercise of the year, this is Ramstein Flag 2025 and *Ben Gorski, Paul Gross, and Patrick Roegies* were in attendance.



This years' Ramstein Flag (RF) took place from March 31st until April 10th, hosted by the Royal Netherlands Air Force (RNLAF) at Leeuwarden Air Base and was the second edition. The first edition of RF took place in 2024. During the premier edition the center of operations was Andravida Air Base in Greece, hosting all aircraft apart from air to air refueling assets. RF 2024 was evaluated as very successful by NATO AIRCOM, and planning for the 2025 edition started as early as mid-2024 with the Initial Planning Conference.

In contrast to 2024, RF25 saw the assets spread over twelve locations in six countries. The choice for this alteration was made to add to the realism of the exercise. Or as Air Marshal Johnny Stringer, Deputy Commander of NATO allied Air Command stated: "By operating out of different NATO locations, the exercise created a realistic scenario in which multinational units had to cooperate under high time pressure, spread over a vast geographical area. "This mirrors the conditions we would face in a conflict on the eastern flank or elsewhere". He added "It allows us to test the logistics chain, command structures, and information sharing between allies in a simulated combat environment."

Air Commodore Marcel 'Bo' van Egmond, RNLAF commander of the Air Combat Command, proudly hosts RF25 at Leeuwarden Air Base. "It is an honor for The Netherlands to lead such a high-end multinational exercise. This is not just about flying jets—it is about deterrence. And deterrence requires preparation, presence, and interoperability."

Van Egmond emphasizes how close modern conflict has come to NATO's borders. "Ukraine is only a 90-minute flight away." The commodore also points to the value of planning and executing together across nations. "Pilots are like world-class

◄ A Swedish Gripen connects with a tanker as French Rafales form up in the background. This multi-nation refueling train demonstrates the cohesion of allied forces. NATO AIRCOM

Spanish Air Force EF-18 Hornets fly in formation above the clouds during Ramstein Flag. Spain brings advanced strike and escort capabilities to the exercise. NATO AIRCOM

▲ A French Air and Space Force Rafale B taxis out for a mission during Ramstein Flag. French participation showcases multirole fighter capability in NATO's largest tactical air exercise. NATO AIRCOM

athletes—individually excellent. But we must become a world-class team. That means learning each other's playbooks." He highlights how multinational planning, flying, and debriefing improves cohesion across NATO. Looking ahead, he hopes future editions of the exercise include more airspace to the east, particularly into Germany, and better integration with ground-based air defenses. "More realism means more readiness. We are strong now—but we can always improve."

Strategic Lines of Effort to exercise goals

NATO AIRCOM has recently defined five Lines of Effort (LOE), based on the current real-world situation. These LOE include Counter-Territorialism, Counter Anti-Access/Area Denial (C-A2AD), Integrated Air and Missile Defense (IAMD), Agile Combat Employment (ACE), and Control of the Air Domain.

Lieutenant Colonel Willem van Kampen of the RNLAF and Lieutenant Colonel Martin Friis of the Royal Danish Air Force bring operational context to the exercise's high-level strategy. They work directly with AIRCOM, translating modern battlefield lessons—especially from Ukraine—into what NATO must prepare for. Van Kampen: "RF is not just a flying event, It is designed to train the entire NATO air enterprise across these five LOEs." Friis adds: "These are the building blocks for modern warfare".

The RF25 organization led by key figures such as General James Hecker and Air Marshal Johnny Stringer translated AIRCOM's five LOEs into no less than nine Exercise Objectives for Ramstein Flag 25.

A main objective, connecting all others, is interoperability of flying air defence assets with Surface & Sea Based Air and Missile Defence (SBAMD). "We don't want fifteen countries pursuing fifteen different goals," van Kampen says. "We align early and train smart." A key example is interoperability—ensuring forces understand each other's systems and tactics. Van Kampen explains this using a metaphor: "If everyone speaks their own language, we hear each other, but we do not understand. With interoperable systems, we all speak the same tactical language".

Friis elaborates: "We train interoperability not just to fly together—but to actually fight together." One example: integrating air defense units and fighters in the same zone. "Traditionally, airspace would be divided. Now, we deliberately overlap the zones. That means ground and air units fire in the same area. That has one obvious drawback—if you do not coordinate, you could shoot each other." The goal is to remove the metaphorical 'fence' around each unit's bubble. "If you have a fence outside your house," van Kampen says, "it limits people from entering. If you want freedom of movement, you must take that fence away."

Integrated Composite Air Operations (COMAO) mission planning and execution was also a main objective. This objective mainly concerned working effectively and efficiently with the current mix of 4th and 5th generation aircraft. Friis: "The F-35 brings amazing sensors, but not many weapons because it needs stealth. A 4th generation aircraft like a Eurofighter brings more firepower. So, we train to use them together, make one see, the other shoot

Another objective, directly translated from AIRCOM's LOE, was to exercise the ACE concept, at Leeuwarden and other air bases. ACE is a proactive and reactive operational scheme of maneuver, executed within threat timelines, to increase survivability while generating combat power. When applied correctly, ACE complicates the enemy's targeting process, creates political and operational dilemmas for the enemy, and creates flexibility for friendly forces.

▼ Two F-35As from the Royal Netherlands Air Force, operating out of Leeuwarden Air Base, cruise in formation over open water. Ben Gorski

◀ A Turkish Air Force F-16 from 151 filo connects with the boom of a KC-135R tanker during aerial refuelling operations. Ben Gorski

A well-known aspect of ACE is the use of alternative locations for flying operations, like highway-strips. Asked why this aspect of ACE was not part of RF25 Air Commodore Marcel 'Bo' van Egmond stated: "During this edition of RF25 this was not a part of the operations, but it could well be that we do it in the next edition".

Combat Phases and Tactical Execution

RF is structured around escalating operational scenarios. The first three days are dedicated to establishing Integrated Air and Missile Defense (IAMD) in what is called a "semi-permissive" environment—simulating a contested airspace where some enemy threats remain. Midweek transitions focus on Counter Anti-Access/Area Denial (C-A2AD) missions, where blue air strikes enemy surface-to-air missile (SAM) positions, command centers, and radar installations. The final days shift to supporting ground forces under simulated NATO Article 5 scenarios.

◀ RAF Typhoons operated from their homebase RAF Lossiemouth in Scotland and were regular customers of A330MRTT tankers from the MMU. Paul Gross

▶ Two Danish F-35As from Eskadrille 727 fly in tight formation over the Netherlands. Andrew Hummel

Participating fighters work in coordinated mission packages. Electronic attack (EA) aircraft provide jamming support while SEAD/DEAD platforms locate and neutralize enemy radars. "We replicate layered threats. Some jets blind enemy SAMs: others punch holes through their coverage," says a mission commander.

Joint Terminal Attack Controllers (JTACs) and simulated Forward Air Controllers direct strikes on behalf of ground troops. These are the most complex scenarios in the exercise, involving rapid deconfliction of aircraft, munitions, and joint fires.

Draken International Joins the Fight

Draken International, a U.S.-based civilian defense contractor, played a pivotal and disruptive role during RF25. Known for its specialization in threat emulation, NATO contracts Draken to simulate advanced adversarial electronic warfare capabilities—making them a vital component of the exercise's Red Force.

"We're the Red Force," says one Draken mission lead. "Our job is to simulate enemy jamming—breaking into NATO comms, spoofing radars, disrupting sensor networks." Their Falcon 20 jets, equipped with powerful electronic warfare pods, are seen buzzing around the exercise area, deliberately injecting chaos into an otherwise organized NATO command structure. "We literally play music over their radio nets sometimes. That is us," he adds with a smirk.

While Draken is often associated with Red Air, their involvement here focuses squarely on electronic attack. "We are not dogfighting. We are sowing confusion and assessing the other side's ability to respond," the mission lead explains. Their effectiveness, however, is

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TURKISH AIR FORCE

▼ Turkey's E-7T Peace Eagle AWACS aircraft lands after a command-and-control mission. Its real-time battlefield management capability is vital for coalition airpower. Ben Gorski

▶ **A Danish F-35A receives fuel from a Turkish KC-135R during a mid-air refueling operation over the North Sea.** NATO AIRCOM

▲ **Proud host of Ramstein Flag was Commodore Marcel van Egmond, commander of the Royal Netherlands Air Force Air Combat Command (ACC).** Paul Gross

not just airborne. "The real value is in the debrief," says one of their EW officers. "Recognizing you are being jammed is the first challenge. Fixing it in real-time—that is where we evaluate their resilience."

As one NATO officer concluded, "They're a red cell with a PhD in disruption."

Future Focus

Commanders, planners, and aircrews walk away from RF25 with more than just flight hours. They leave with tested tactics, confirmed interoperability, and a deeper understanding of what it takes to fight as one alliance. The greatest strength of the exercise is its integration—of platforms, nations, roles, and systems. Lt Col Friis said "More than anything, we trained to trust each other." Van Egmond echoes this sentiment. "This is deterrence in action. We do not hope for war, but we prepare for it. And we do that together."

Looking ahead to RF26, organizers aim to expand airspace, increase participation from new NATO members, and deepen joint integration with land and maritime forces. More advanced simulations, faster information-sharing networks, and greater logistical agility are also high on the wish list. For now, Ramstein Flag 2025 proves that NATO's strength does not lie in any one nation's aircraft or arsenal—but in how seamlessly they can all work together. AN

▶ **The Romanian Air Force F-16's participated in both Ramstein Flag exercises. In 2024 from their homebase Fetesti, in 2025 from RAF Fairford.** Paul Gross

▲ **With its position and anti-collision lights glowing brightly, Eurofighter 30+71 prepares to depart into the night.** Jos Knol

The authors wish to thank the following for their help: Capt. Maike Lauer (MMU), Capt. José R. Davis (AIRCOM), Major Marleen Mollema (Royal Netherlands Air Force ACC), TSgt Chris Jacobs (100th ARW), 1st Lt. Sarah Villareal (100st ARW).

▼ **The Greek participation consisted of four Block 72V F-16's.** Patrick Roegies

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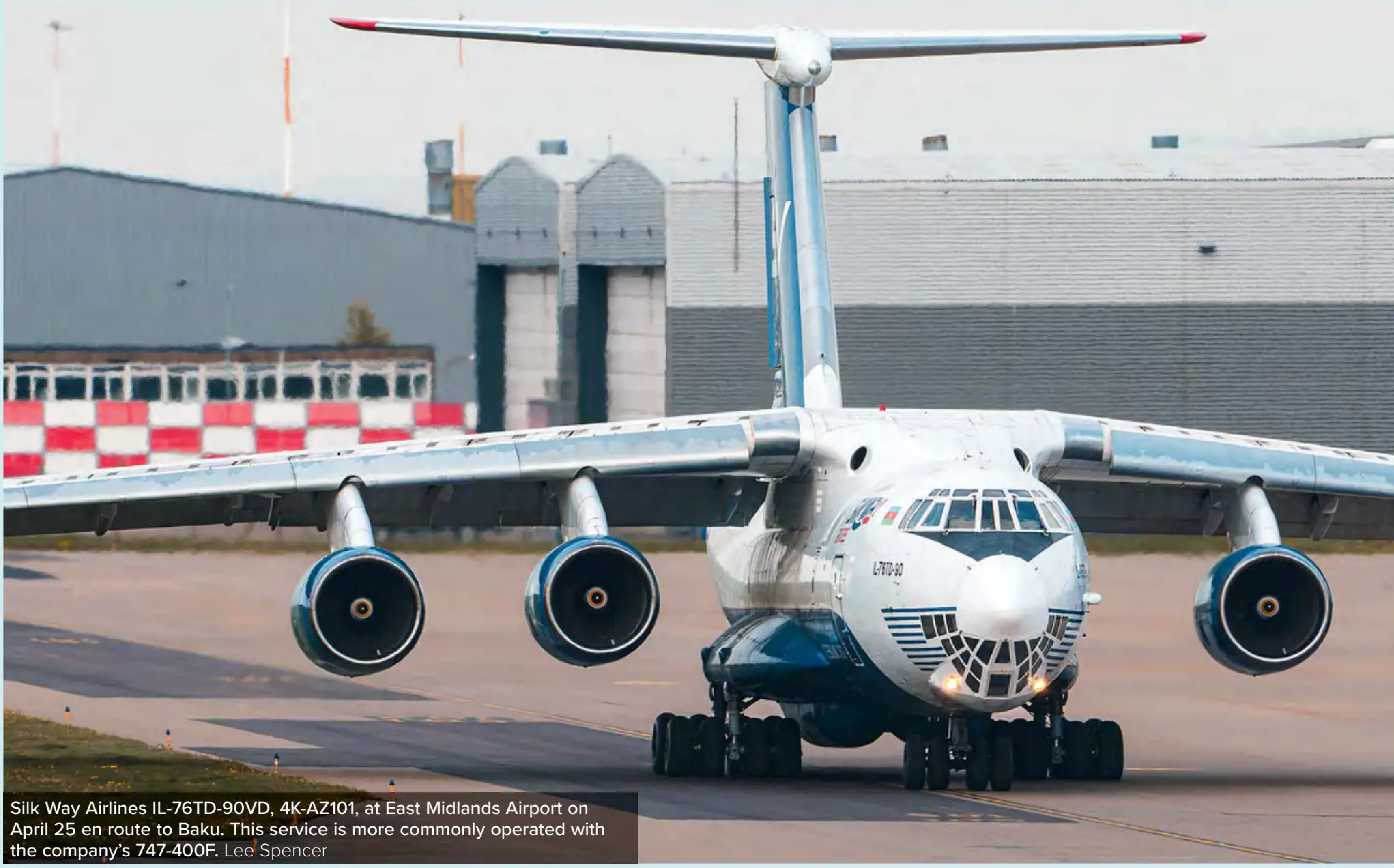
405/25

CIVILIAN MOVEMENTS

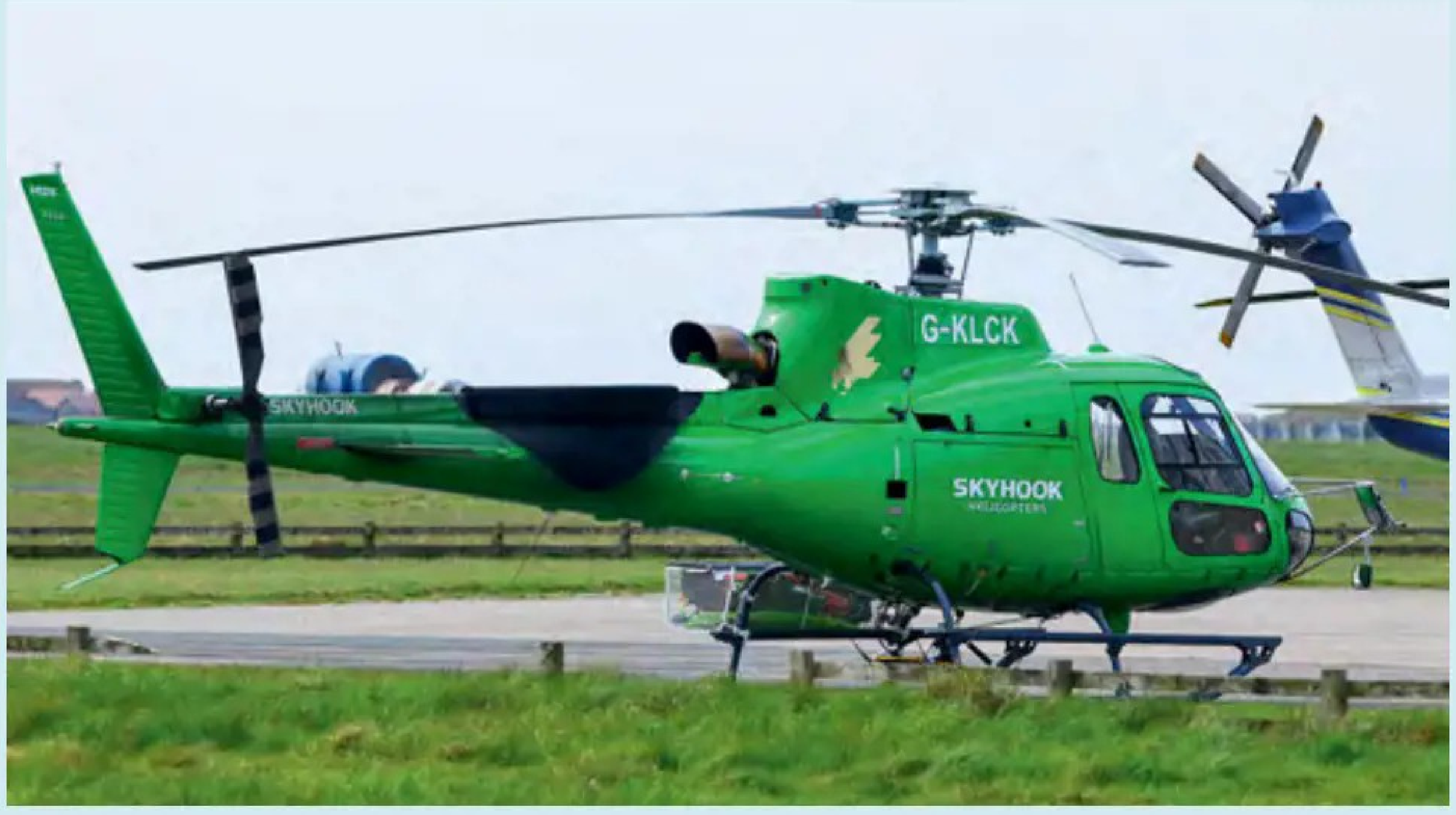
Ben Stanley Hall showcases the rich diversity of aircraft movements up and down the UK

This month's *Civilian Movements* brings a range of aircraft types. Some that will probably not be seen for much longer and others we wouldn't expect to see in the UK. Thank you to our contributors for some particularly great photography.

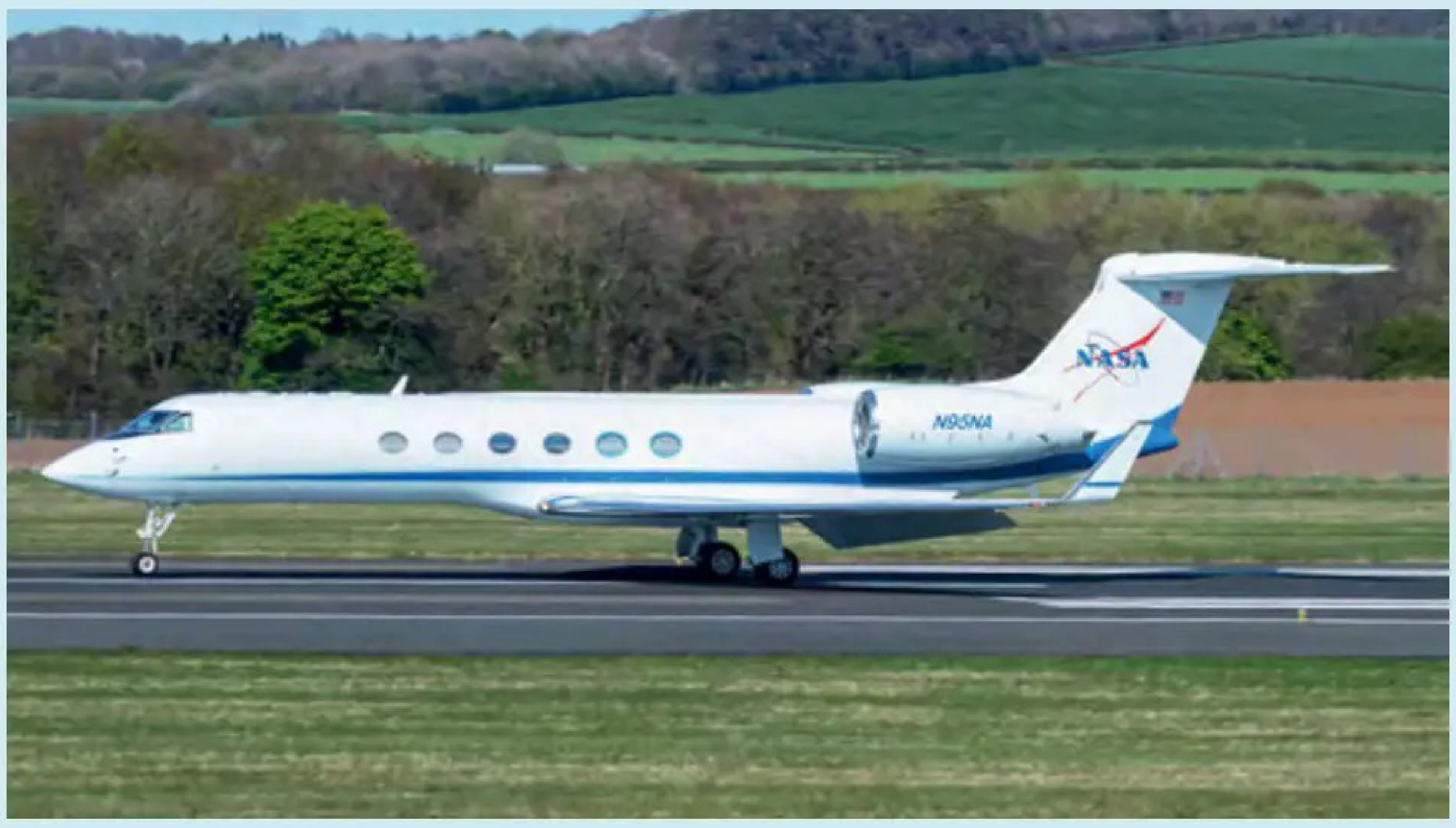
We welcome contributions from readers across the world. If you photograph an aircraft that is not in its usual location or could be of interest, please email your images, without watermarks, to ben.hall@keypublishing.com using the subject heading 'Just Passing Through', with a short caption including as much information as possible. *AN*



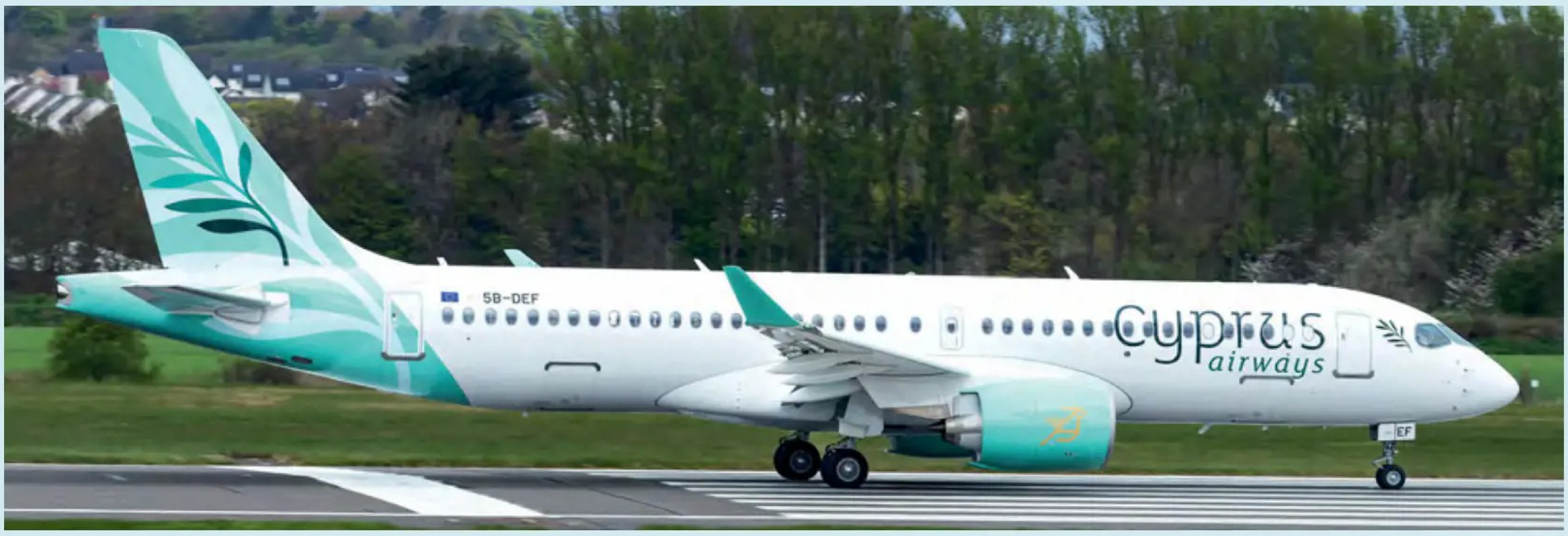
Silk Way Airlines IL-76TD-90VD, 4K-AZ101, at East Midlands Airport on April 25 en route to Baku. This service is more commonly operated with the company's 747-400F. Lee Spencer



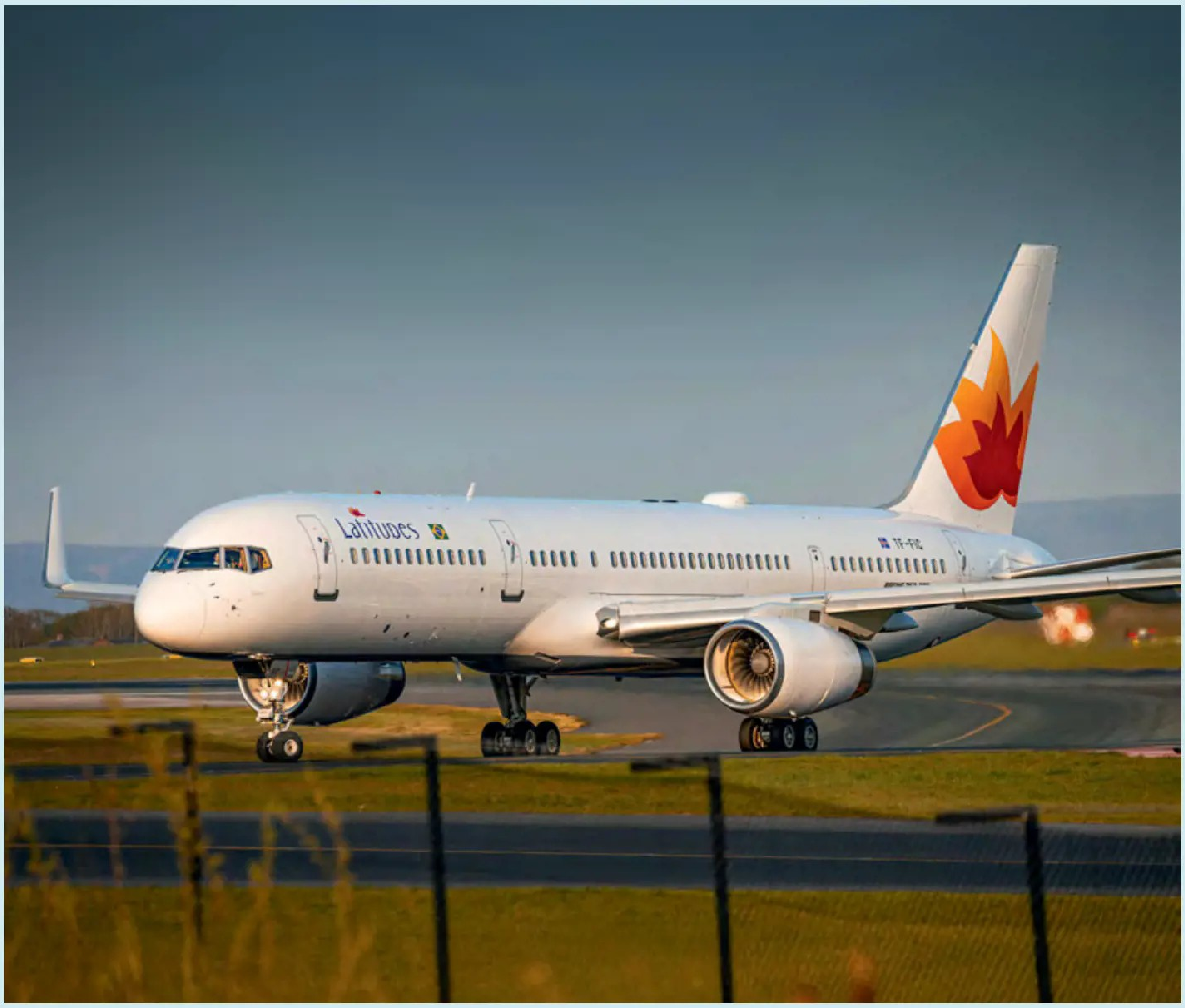
▲ An almost brand new Airbus Helicopters AS.350B3 Ecureuil, G-KLCK serial 9658, built in late 2024, seen at UK Aviation Services, Jaymax House, Blackpool Airport on April 25, 2025, after arriving earlier in the day from Perth in Scotland. It is operated by TSL Contractors Ltd, trading as Skyhook Helicopters, presumably in for routine maintenance. Andrew Ratcliffe



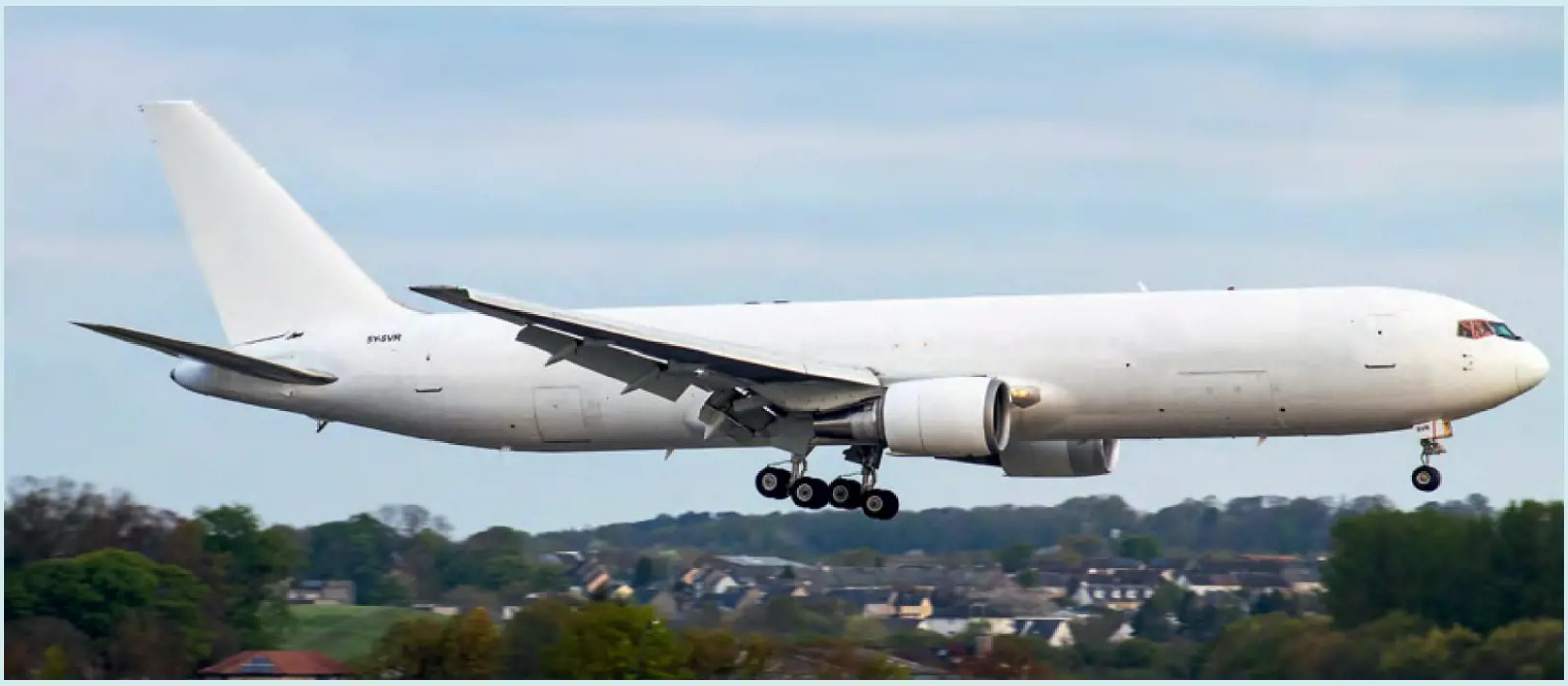
▲ A rare daytime visit of the NASA Gulfstream 5, N95NA (cn 672), at Prestwick Airport in Scotland. It arrived from Karaganda Sary-Arka Airport in Kazakhstan with NASA's oldest active astronaut, 70-year-old Donald Pettit. After a few hours on the ground, the aircraft departed to Houston Ellington Airport. Stuart Haigh



◀ The last of four Airbus A220-300s, 5B-DEF (cn 55344), on order for Cyprus Airways was delivered thorough Edinburgh on April 19. The aircraft arrived a day earlier from Montreal, Canada. After a night stop, it departed on the final leg of its delivery flight to its new home base of Larnaca.
Stuart Haigh



▲ An Icelandair 757-23N, TF-FIC, wearing a Latitudes livery at Manchester Airport on April 8. It was reportedly carrying a football team to a fixture abroad. Mohammad Bilal/AirborneFlix



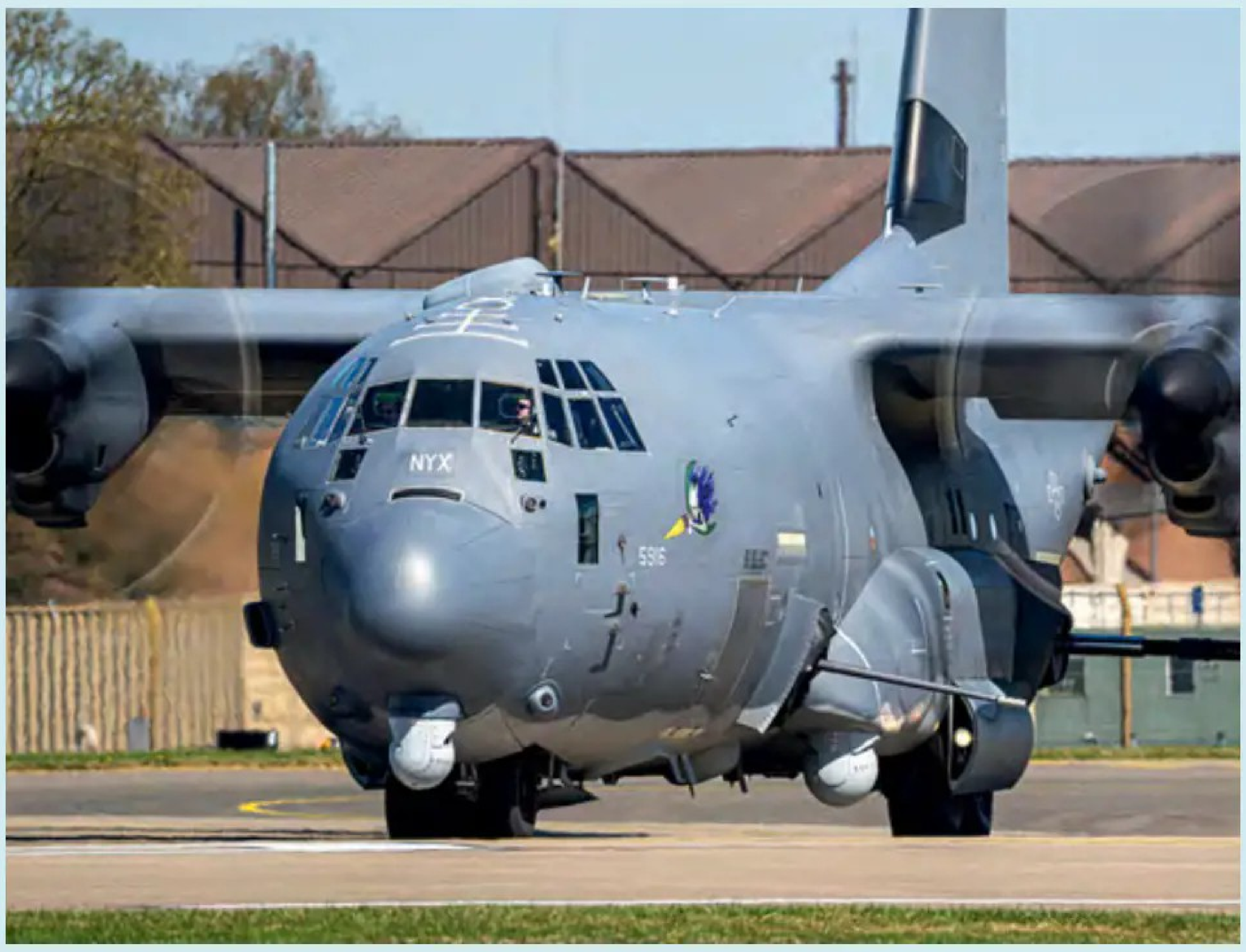
◀ The first Boeing 767-300 freighter for Kenyan operator Astral Aviation Cargo is shown landing at Edinburgh Airport. The all-white aircraft was on its delivery flight from Miami Opa Locka to Nairobi and stopped for fuel and crew rest. The 36-year-old Boeing 767-338(ER)(BDSF), 5Y-SVR (c/n 24146), was originally delivered to Australian airline QANTAS in August 1988. After freighter conversion, it operated primarily in the US. It will join a single Boeing 737-400F and Boeing 767-200F already in the operator's fleet. SH

MILITARY MOVEMENTS

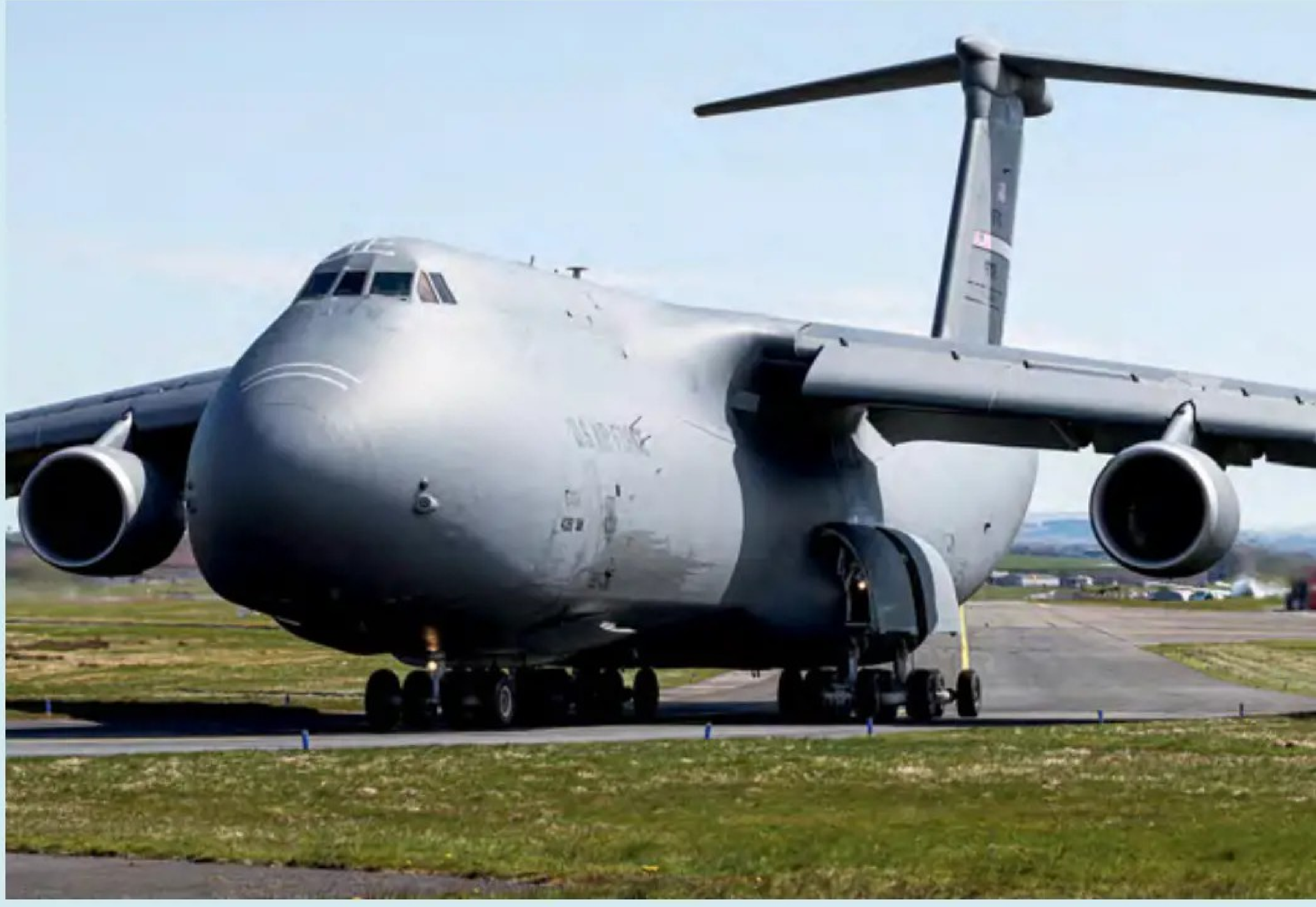
Ben Stanley Hall showcases the rich diversity of aircraft movements up and down the UK

This month's *Military Movements* is blessed with some outstanding aircraft and some particularly great photography. There's a wide variety of types, with fighters, VIP transport, massive cargo aircraft, small intelligence gathering aircraft and a flying gunship!

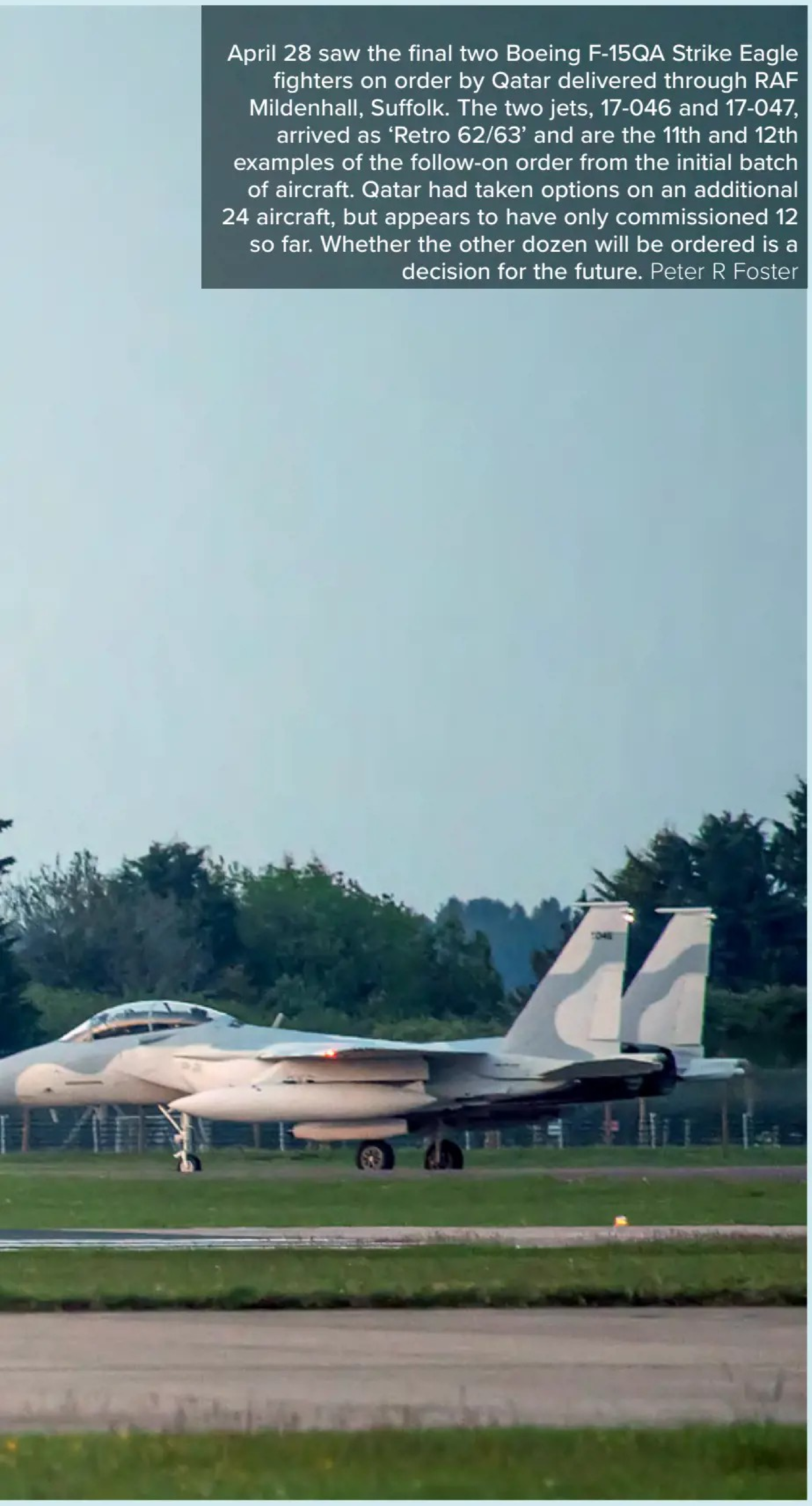
We welcome contributions from readers across the world. If you photograph an aircraft that is not in its usual location or could be of interest, please email your images, without watermarks, to ben.hall@keypublishing.com using the subject heading 'Just Passing Through', with a short caption including as much information as possible. *AN*



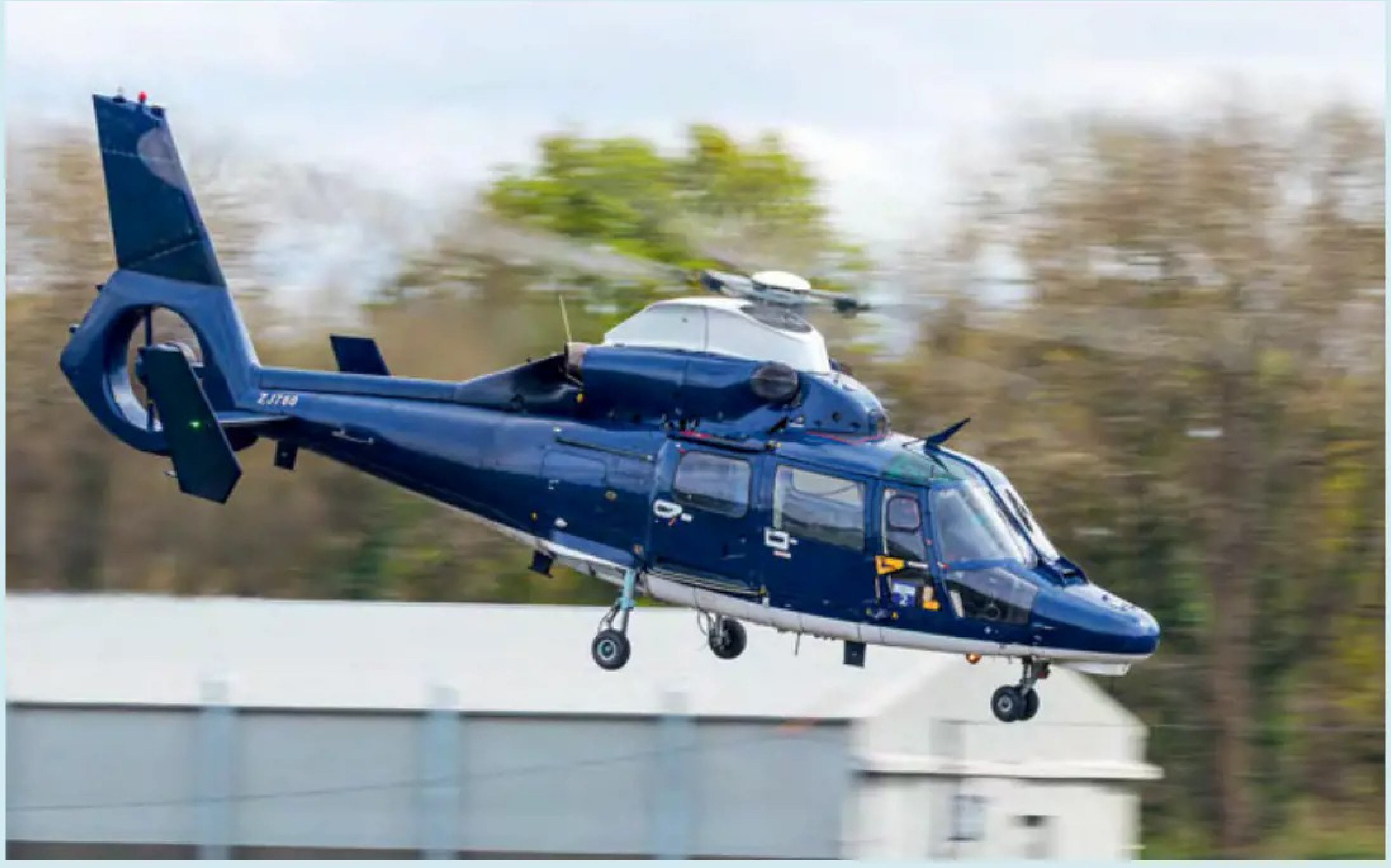
▲ AC130J, 18-5916 callsign 'LAPEL11', belonging to the 16th Special Operations Squadron/27th S Special Operations Wing based at Cannon Air Force Base, New Mexico, departing RAF Mildenhall in Suffolk for Keflavik, Iceland, on April 6, 2025. Alexander Blackman



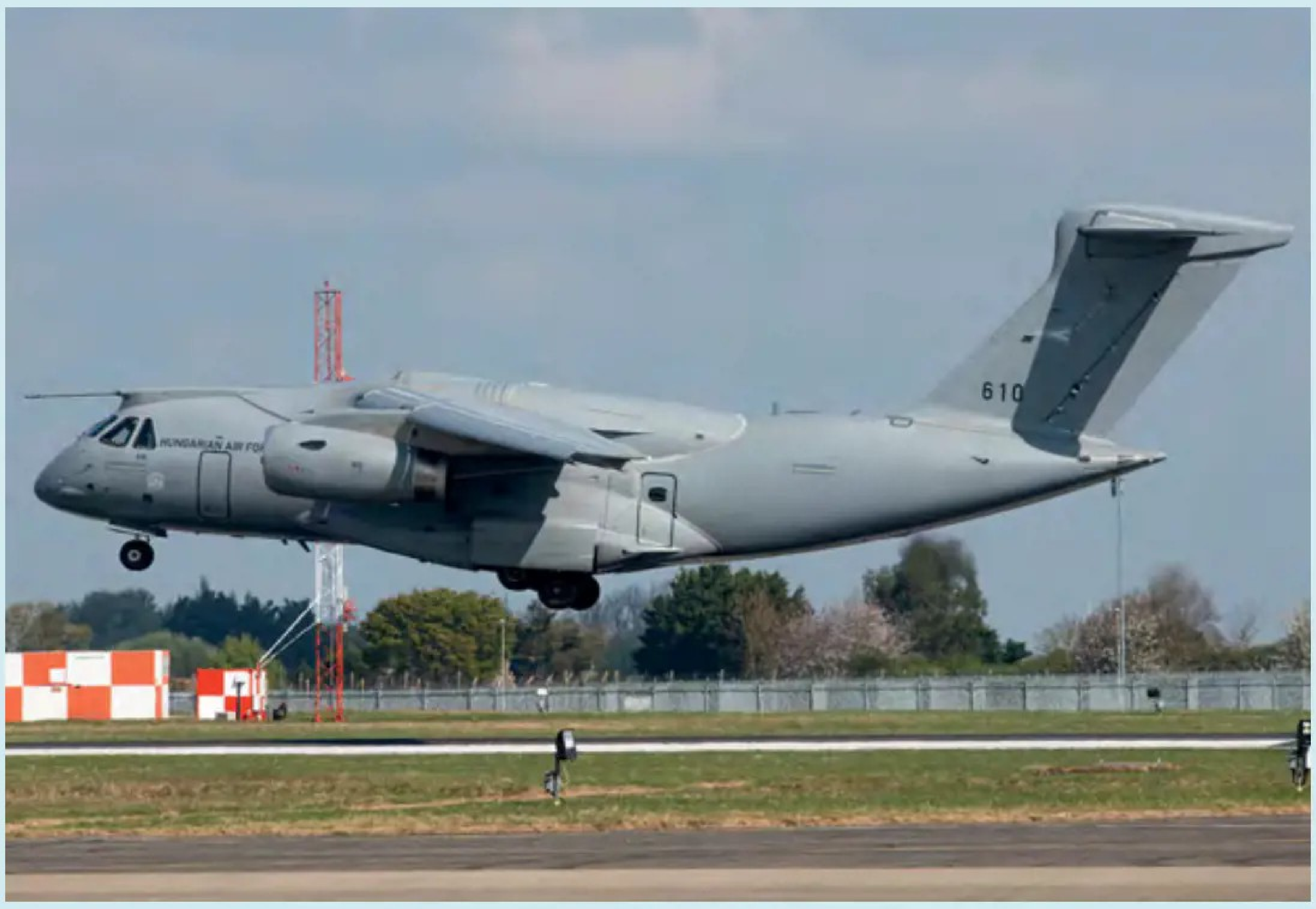
▲ USAF C-5M, 86-0012, taxis to Juliet at Prestwick Airport in Scotland before a runway 12 departure back to Westover Air Force Reserve Base in Massachusetts on April 20, after an overnight stop from Al Udeid. Callum Dargavel



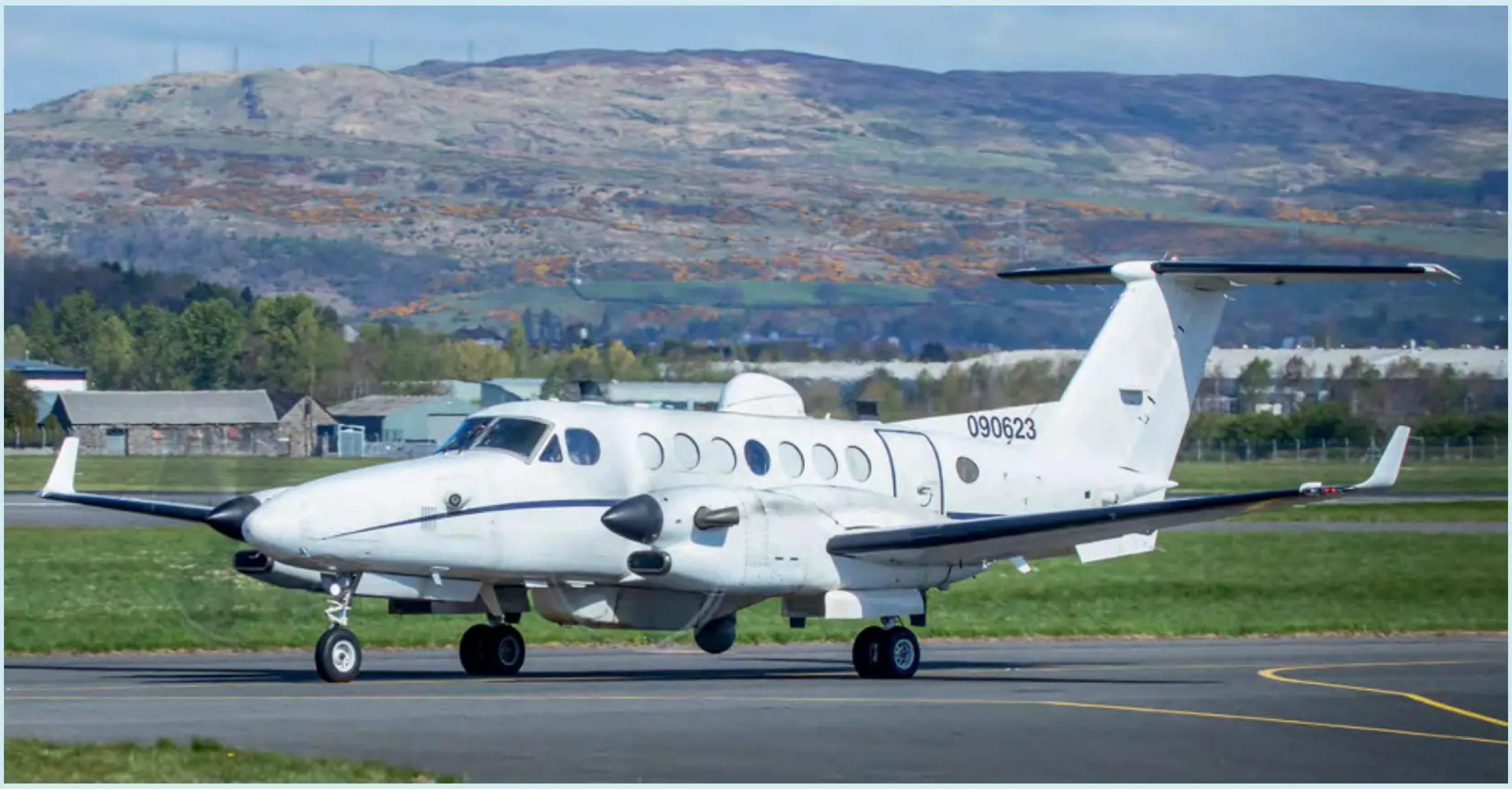
April 28 saw the final two Boeing F-15QA Strike Eagle fighters on order by Qatar delivered through RAF Mildenhall, Suffolk. The two jets, 17-046 and 17-047, arrived as 'Retro 62/63' and are the 11th and 12th examples of the follow-on order from the initial batch of aircraft. Qatar had taken options on an additional 24 aircraft, but appears to have only commissioned 12 so far. Whether the other dozen will be ordered is a decision for the future. Peter R Foster



▲ A Eurocopter AS365 Dauphin accelerates along the runway at Shobdon Airfield, Herefordshire, as it conducts some circuit practice. Based out of Sterling Lines in Hereford, it is operated by the Army Air Corps' 658 Squadron, which is part of the Joint Special Forces Aviation Wing (JSFAW) supporting UK Special Forces in their training exercises and missions. Joseph Evans



▲ Seen arriving at RAF Mildenhall in Suffolk on April 12 is Embraer KC-390 610 of MH-101 Hungarian Air Force on a gas 'n' go visit, operating as 'HUAF 857'. Peter R Foster



◀ Four MC-12Ws and a single Beech 350 passed through Glasgow Airport on their way back to the US. The aircraft had been operating in the Middle East and the Horn of Africa, stopping in Glasgow for fuel and crew rest. Beech MC-12W *Liberty*, 09-0623 (cn FL-623), is operated by the USAF 185th Special Operations Squadron and is pictured taxiing out for departure to Keflavik in Iceland. Stuart Haigh

The latest changes on the UK, Irish, Isle of Man and Guernsey registers

Restorations

REG'N	MODE(S)	TYPE	C/N	OWNER
G-AKUN	40260B	Piper J3C-65 Cub (Modified)	6914	WR Savin, (Little Shelford, Cambridgeshire)
G-ANRP	4014A1	Auster 5 (built by Taylorcraft Aeroplanes (England) Ltd)	1789	CL Petty, Breighton, East Riding of Yorkshire
G-AZBL	40191D	Jodel D9 Bébé (built by DS Morgan)	PFA 938	VD Long, (Norwich, Norfolk)
G-BPXY	402E2C	Aeronca 11AC Chief	11AC-S-50	JH Tetley, (Thorpe Willoughby, North Yorkshire)
G-CBTN	400C01	Piper PA-31 Navajo C	31-7812073	ME Gradwell, Biggin Hill, Greater London
G-DCWY	405EBC	Glasflügel Standard Libelle 201B	287	SJ Taylor, (Llangollen, Denbighshire)
G-ENII	4021B3	Reims Cessna F172M	1352	PJ Gatland, Turweston, Buckinghamshire
G-MZKW	4038E0	Quad City Challenger II (built by KW Warn)	PFA 177-12518	LEJ Wojciechowski (Nottingham, Nottinghamshire)
G-NPTD	4076E0	Boeing 737-83N(BCF)	32615	West Atlantic UK Ltd, East Midlands, Leicestershire
2-BTPO	TBA	Boeing 737-86N(BCF)	28595	Dynamic Avlease Inc, (stored Prague, Czech Republic)

New Registrations

REG'N	MODE(S)	TYPE	C/N	OWNER
G-CMWH	4081D2	Flylight Nine	DA296	MB Horan, (Uttoxeter, Staffordshire)
G-CMXU	40826D	Edwards Affordaplane	JR1	J Riley, (Bedford, Bedfordshire)
G-CMXW	408283	Windracers ULTRA-UAS	Mk2-027	Windracers Ltd, (Southampton, Hampshire)
G-CMXZ	406F5A	Comco Ikarus C42 FB80 (assembled by Red Aviation)	1510-7426	JA Cairns-Terry, Trustee of ZX Flying Group, (Leominster, Herefordshire)
G-CMYE	408286	Aeros Fox 13T/Dragon	6647	SB Walters, (Collingtree, Northamptonshire)
G-CMYK	40821E	Kubicek BB50Z	2464	Yorkshire Balloon Flights Ltd, (York, North Yorkshire)
G-CMZG	408201	Apollo Exodus Deltajet 500 Stingray (assembled by Flylight Airsports Ltd)	EA 028	NC Mitchell, (Lutterworth Leicestershire)
G-CMZI	408202	Embraer 190	19000661	Air Kilroe Ltd, Humberside, Lincolnshire
G-CNBG	408274	Kubicek BB30E	1826	KJ Parsons, (Seavington, Somerset)
G-DOMC	408287	Van's RV-8	LAA 303-15373	LJ Clarke, (Newhaven, East Sussex)
G-DTSC	40818D	Aermacchi MB339CB	6801	SDTS, Nimes-Garons, France
G-EGCK	40824F	Grob G115C	82066/C1	Beagle Flight Consultancy Ltd, Old Buckenham, Norfolk
G-EVCA	408273	Skyfly Axe	002	Skyfly Technologies Ltd, Turweston, Buckinghamshire
G-FOHN	4052FC	Schempp-Hirth Ventus 2B	114	JC Bastin, Lasham, Hampshire
G-HUWW	408259	Piper PA-34-200T Seneca II	34-7870272	Watson Aviation (Gloucestershire) Ltd, Gloucestershire
G-IGRT	4081B4	TL Ultralight TL-2000 Sting S4	25 ST 513	S Jolles, (Aberthin, Vale of Glamorgan)
G-ILIS	405FD2	Mudry CAP-232	09	IM Zidane, White Waltham, Berkshire
G-IVON	406BE2	Best Off Skyranger Nynja 912(1) (built by A Dawson)	BMAA/HB/652	LN Givens, (Bootle, Merseyside)
G-JRVA	408275	Van's RV-6	LAA 181A-15622	AC Batchelar, (Brighton, West Sussex)
G-MDYG	408271	Diamond DA40NG Star NG	40.N406	Meddyg Care Group Holdings Ltd, Caernarfon, Gwynedd
G-NSCA	408257	Airbus MBB BK-117 D-3 (built by Airbus Helicopters Deutschland GmbH)	21364	Babcock Mission Critical Services Onshore Ltd, (to be operated by Scottish Charity Air Ambulance)
G-OAFS	400D59	Piper PA-32R-301T Saratoga II TC (built by The New Piper Aircraft Inc)	3257310	AFS Aviation Ltd, Lasham, Hampshire
G-OOZE	40824D	Diamond DA62	62.234	Aerium Flight LLP, Oxford, Oxfordshire
G-OTSS	4081B0	TL Ultralight TL-2000 Sting S4	24 ST 514	BC Gotts, (Felthorpe, Norfolk)
G-RAJV	4056A2	Bombardier Global Express XRS	9196	Catraeus AOC Ltd, Farnborough, Greater London
G-RGAH	408254	Diamond DA40NG Star NG	40.N394	Romeo Golf Aviation Ltd, Oxford, Oxfordshire
G-RGAM	408253	Diamond DA40NG Star NG	40.N393	Romeo Golf Aviation Ltd, Oxford, Oxfordshire
G-SIXE	4081DA	Piper PA-32-260 Cherokee Six	32-7600014	Aerobility Ltd, Blackbushe, Hampshire

G-TTSF	40813F	Airbus A320-251N	12535	British Airways PLC, London Heathrow, Middlesex
G-UNIH	4081ED	Leonardo AW139	32088	Uni-fly Heliworx Ltd, Humberside, Lincolnshire
G-UZEG	408183	Airbus A320-251N (assembled by Airbus Tianjin)	12522	Easyjet Airline Company Ltd, London Luton, Bedfordshire
G-WIGZ	4079CB	Van's RV-7 (built by M Covey)	LAA 323-15557	EJ Wiggin (Moreton Morrell, Warwickshire)
G-XXLB	40826E	Bell 407 (built by Bell Textron Canada Ltd)	56434	Seafresh Group (Holdings) Ltd, (Redditch, Worcestershire)
EI-HNP	TBA	Diamond DA42NG Twin Star NG	42.N116	Skyharbour Ltd, (Athlone, Co. Westmeath)
EI-HRG	4CAF0E	Boeing 737-86N(BCF)	34251	ASL Airlines (Ireland) Ltd, Dublin, Co. Fingal (NB)
EI-HUN	4CA40D	Embraer 290	19020171	Azorra Aircraft Ireland 1 Ltd, (leased to Hunnu Air, Ulaanbaatar-Buyant-Ukhaa, Mongolia)
EI-KIE	4CAEF1	Airbus A320-271N	12428	Avolon Leasing Ireland 3 Ltd (operated by Air Astana, Almaty, Kazakhstan)
EI-NSG	4CAD80	Airbus A320-251N	12462	Aer Lingus Ltd, Dublin, Co. Fingal
EI-RZG	4CAEB0	Boeing 737-8	66467	ACG Aircraft Leasing Ireland Ltd, (operated by Neos, Milan-Malpensa, Italy)
M-ABSU	424C8C	Bombardier Challenger 3500	21052	Aviation Finance & Leasing Ltd, London Stansted, Essex (operated by Ryanair)
M-ABTN	424C91	Airbus A320-216	2842	Wilmington Trust SP Services (Dublin) Ltd, (stored Hosur. India)
M-CELT	424C87	Bombardier Global 6500	60159	Ulmaria Ltd, Dublin, Republic of Ireland
M-GLRY	424C92	Dassault Falcon 8X	402	Silver Peregrine Ltd, Tortola, British Virgin Islands)
M-HUGO	424C99	ATR-72-212A	1057	Blue Turbo Two Finance LLC, (stored Wilmington, Delaware, USA)
M-IBAS	424C93	Bombardier Challenger 605	5863	AJ Aircraft 1 Ltd, Biggin Hill, Greater London
M-LXRY	424CBF	Leonardo AW139	31708	Silver Peregrine Ltd, (Tortola, British Virgin Islands)
M-MBFF	424C94	Bombardier Global 5000	9174	Itom Rotorcrafts (Pty) Ltd, Lanseria, South Africa
M-MFIA	424C8A	ATR-72-212	904	Acia Aero Leasing APAC Ltd, (stored Kuala Lumpur-Subang, Malaysia)
M-SULT	424C80	Learjet 45	45-194	Ridgemont (Pty) Ltd, Robertson, Western Cape Province, South Africa
M-TNDR	424CA5	Cessna S550 Citation S/II		Tinadar Jets Ltd, Seychelles International, Seychelles
2-IDTI	TBA	Airbus A320-216	3976	Tianjin Yuqing Chunjiang Aviation Technology Ltd, (stored St. Athan, Vale of Glamorgan)
2-IDTJ	TBA	Airbus A320-216	3978	Tianjin Yuqing Chuntong Aviation Technology Ltd, (stored St. Athan, Vale of Glamorgan)
2-LEAL	TBA	Dornier 228-200	8021	ACG-Airlease Capital Group LDA, TBA
2-STEF	TBA	ATR-72-212A	1076	Blue Turbo Two Finance LLC, (stored Lagos-Murtala Muhammed International, Nigeria)
2-TIYN	TBA	ATR-72-212A	1514	TrueNoord Yamuna Ltd, (stored Hyderabad-Rajiv Gandhi International, India)
2-VNYK	TBA	Bombardier CRJ-100ER	7296	Zipa Holding Ltd, (stored at Riga International, Latvia)
2-WKTR	43F783	Beech B200T King Air	BT-13	Dynamic Airlease Inc, Retford Gamston, Nottinghamshire

Cancellations

REG'N	TYPE	C/N	Fate
G-ALJF	Percival P.34 Proctor III	K.427	Cancelled by CAA (crashed in trees at Rovelden, Kent 24.09.12)
G-AXOZ	Beagle B121 Pup Series 1	B121-115	Cancelled as Destroyed (CofA current to 02.07.25, details unknown)
G-BMCS	Piper PA-22-135 Tri-Pacer	22-1969	To Germany
G-BOSJ	Nord 3400	124	Cancelled as Permanently WFU (Permit to Fly expired 01.11.94, Damaged at Fenland, Lincolnshire 12.06.94)
G-BOZS	Pitts S-1C Special	221H	Cancelled as Permanently WFU (Permit to Fly expired 15.05.14)
G-BRNE	Cessna 152	152-84248	Cancelled by CAA (badly damaged on landing at Redhill, Surrey 13.06.09)
G-BSRP	Rotorway Executive	3824	Cancelled by CAA (Permit to Fly expired 16.11.21)
G-BTDR	Aero Designs Pulsar	PFA 202-11962	Cancelled by CAA (Permit to Fly expired 03.08.23)
G-BTOU	Cameron O-120	2606	Cancelled as Permanently WFU (CofA expired 23.07.13)
G-BUTJ	Cameron O-77	2991	Cancelled as Permanently WFU (CofA expired 15.05.17)
G-BYNF	North American NA-64 Yale	64-2171	To France as F-AYEJ
G-BYPO	Raj Hamsa X'Air 582(1)	BMAA/HB/111	Cancelled by CAA (Permit to Fly expired 27.09.22)
G-BZBE	Cameron A-210	4708	Cancelled as Permanently WFU (CofA expired 23.06.13)
G-CDHF	Piper PA-30-160 Twin Comanche B	30-1111	Cancelled by CAA (CofA expired 03.11.23, last noted stored at Toussus-le-Noble, France 02.24)
G-CDRC	Cessna 182Q	182-67085	Cancelled by CAA (CofA expired 14.10.21)
G-CEYL	Bombardier Global Express XRS	9196	Re-registered as G-RAJV
G-CGVC	Piper PA-28-181 Archer III	2843669	To USA
G-CIGD	Reims Cessna F172M	1352	Re-registered as G-ENII
G-CIHV	Best Off Skyranger Nynja 912(1)	BMAA/HB/652	Re-registered as G-IVON
G-CIUE	CASA 1-131E Srs.2000 Jungmann	2043	Cancelled as Permanently WFU (badly damaged when force-landed near Syerston, Nottinghamshire 21.08.24)
G-CJXI	Cameron A-300	12069	To France
G-CKFZ	UltraMagic M-77	77/404	To Republic of Ireland
G-CMGE	Grob G109B	6505	
G-CMGG	Grob G109B	6507	
G-CMGO	Grob G109B	6518	
G-CMGP	Grob G109B	6521	
G-CMGR	Grob G109B	6522	

Previous Identities

Reg'n	Previous Identity	Reg'n	Previous Identity
G-BPXY	ex F-AYAS	**EI-HRG**	ex LZ-GNC
G-CMXD	ex D-HBTK	**EI-HUN**	ex PR-EIL
G-CMXZ	ex G-SHCK	**EI-KIE**	ex F-WWIH
G-CMZI	ex PH-EXD	**EI-NSG**	ex F-WWBL
G-CNBG	ex D-OGOG	**EI-RSG**	ex N4022T
G-DTSC	ex N344EM	**M-ABSU**	ex C-GOXM
G-EGCK	ex D-EGCK	**M-ABTN**	ex VT-PNQ
G-ENII	ex G-CIGD	**M-CELT**	ex C-FAUF
G-FOHN	ex G-XJON	**M-GLRY**	ex F-HUIX
G-HUWW	ex N900AJ	**M-HUGO**	ex 5N-GAA
G-ILIS	ex G-IIRP	**M-IBAS**	ex D-ABEY
G-IVON	ex G-CIHV	**M-LXRY**	ex G-LXRY
G-MDYG	ex N156WB	**M-MBFF**	ex ZS-BFF
G-NPTD	ex SE-RLM	**M-MFIA**	ex 9M-MWI
G-NSCA	ex D-HBTE	**M-SULT**	ex ZU-ULT
G-OAFS	ex G-SVPM	**M-TNDR**	ex S5-BAX
G-RAJV	ex VP-CRC	**2-BTPO**	ex 4L-IGT
G-RGAH	ex N136WB	**2-IDTI**	ex EI-DTI
G-RGAM	ex N132WB	**2-IDTJ**	ex EI-DTJ
G-SIXE	ex N9500K	**2-LEAL**	ex ZS-NRN
G-TTSF	ex D-AUAG	**2-STEF**	ex 5N-GAD
G-UNIH	ex I-EASG	**2-TIYN**	ex VT-IYN
G-UZEG	ex B-005A	**2-VNYK**	ex VP-BNM
EI-HNP	ex 2-NGUS	**2-WKTR**	ex N43U

easyJet
G-UZEG
easyJet

Stuart Haigh

G-CMGX	Grob G109B	6529	
G-CMGZ	Grob G109B	6531	
G-CMHA	Grob G109B	6532	
G-CMHJ	Grob G109B	6544	
G-CMHK	Grob G109B	6545	
G-CMHO	Grob G109B	6549	
G-CMHV	Grob G109B	6556	
G-CMHW	Grob G109B	6557	
G-CMHX	Grob G109B	6559	
G-CMIB	Grob G109B	6563	
G-CMIG	Grob G109B	6568	
G-CMII	Grob G109B	6570	
G-CMIJ	Grob G109B	6574	All Cancelled as Permanently WFU (Broken up at Cotswold, Gloucestershire without achieving a CofA)
G-CMWR	Airbus EC130T2	9640	To Brazil as PR-PBH
G-CMXH	Westland SA341B Gazelle AH.Mk.1	1817	To Estonia
G-CMXJ	Westland SA341B Gazelle AH.Mk.1	1950	To Estonia
G-CMXK	Westland SA341B Gazelle AH.Mk.1	1982	To Estonia
G-CMXL	Westland SA341B Gazelle AH.Mk.1	2003	To Estonia
G-CMXM	Westland SA341B Gazelle AH.Mk.1	1009	To USA as N846XW
G-CMXO	Westland SA341B Gazelle AH.Mk.1	1673	To USA as N334XZ
G-CUBX	Piper PA-18-150 Super Cub	18-8109006	Cancelled as Destroyed (crashed at Croft Farm, Defford, Worcestershire 27.08.24)
G-EUPT	Airbus A319-131	1380	Cancelled as Permanently WFU (CofA current to 04.12.25. flown to St Athan, Vale of Glamorgan 07.12.24 for parting out)
G-GHOW	Reims Cessna F182Q	0151	To France
G-GMAX	Stampe SV4C	141	Cancelled by CAA (CofA expired 24.09.24, stored at Turweston, Buckinghamshire 02.25)
G-HDBV	MD Helicopter MD902 Explorer	900-00080	Cancelled as Permanently WFU (CofA expired 20.06.18, to Helicopter Museum , Weston-super-Mare, Somerset 02.25)
G-IIRP	Mudry CAP-232	09	Re-registered as G-ILIS

Updates & Corrections

Reg'n	**Details**
G-BMMJ	Reserved as PH-1699 02.25
G-CGMB	Became PH-DWP 14.03.25
G-CLKW	Became C-FFZM 24.01.25
G-NEST	Became F-PETC
G-WILI	Became N699GW 12.02.25
G-ZEXL	Became VH-OZG 24.01.25
EI-BIR	Became N7787 14.03.25
EI-CVB	Entry on Page 76, May 2025 should have read EI-CVC
M-ATTS	Became C-GLBY
2-GPIB	Became C-GKFD 06.03.25

G-IZOB	Eurocopter EC120B	1286	To Sweden
G-LDVO	Europa Aviation Europa XS	PFA 247-13254	To USA as N139LB
G-LLCH	Cessna 172S Skyhawk SP	172S822	To USA as N845Z
G-LXRY	AgustaWestland AW139	31708	To Isle of Man as M-LXRY
G-MTAW	Solar Wings Pegasus XL-R	SW-WA-1111	Cancelled by CAA (Permit to Fly expired 27.07.13)
G-MVJU	Solar Wings Pegasus XL-Q	SW-WQ-0122	Cancelled by CAA (Permit to Fly expired 18.04.18)
G-MYIT	Cyclone Chaser S508	CH850	To Spain
G-OVEY	Van's RV-7	LAA 323-15557	Re-registered as G-WIGZ
G-POWW	Airbus A321-211(F)	2060	To Malta as 9H-ZTD
G-SHCK	Comco Ikarus C42 FB80	1510-7126	Re-registered as G-CMXZ
G-SVPN	Piper PA-32R-301T Saratoga II TC	3257310	Re-registered as G-OAFS
G-TULI	Embraer EMB-550 Legacy 500	55000031	To USA as N351PF
G-TUNE	Robinson R22 Beta	0818	To New Caledonia
G-USCO	Hughes 269C	1140377	To USA as N9289F
G-VKSS	Airbus A330-343	1201	To Austria as OE-IOW
G-WNSL	Sikorsky S-92A	920241	To Canada as C-FHXB
G-XJON	Schempp-Hirth Ventus 2B	114	Re-registered as G-FOHN
M-ABOU	British Aerospace Avro 146-RJ100	E3248	Cancelled as Dismantled (broken up at Norwich International, Norfolk 01.25)
M-ABTH	Airbus AS350B3e Ecureuil	9523	To USA as N29GF
M-ABRR	ATR-72-212A	1254	To Sweden as SE-MNP
M-AKKA	Dassault Falcon 900EX	130	To USA as N976LX
M-ANGO	Bombardier Global 5000	9172	To San Marino
M-BIGK	Bombardier Global 5000	9597	To USA as N605GJ
M-JCBE	Sikorsky S-76C	760616	To Canada
M-LXRY	AgustaWestland AW139	31708	To Turkey as TC-HFK
M-MFIA	ATR-72-212A	904	To Madagascar as 5R-EJK
2-BPDA	Boeing 737-86N(BCF)	36804	To New Zealand as ZK-TXF
2-NGUS	Diamond DA42 NG Twin Star NG	42.N116	To Republic of Ireland as EI-HNP
2-STLB	Airbus A340-541	628	Cancelled as owner's Request (stored at Taiyuan Wusu, People's Republic of China for parting out)
2-TIJL	Embraer EMB-505 Phenom 300	50500673	To San Marino as T7-EWET
2-TSPP	Boeing 737-86N(SF)	35217	To Indonesia
2-TWGO	Airbus A320-271N	7871	To Turkey as TC-LBJ
2-YOLO	Cirrus SF50	0233	To USA as N233BT

Key: NB – Nominal Base. A place name in brackets relates to the owner's address, as where the aircraft is based is unknown.

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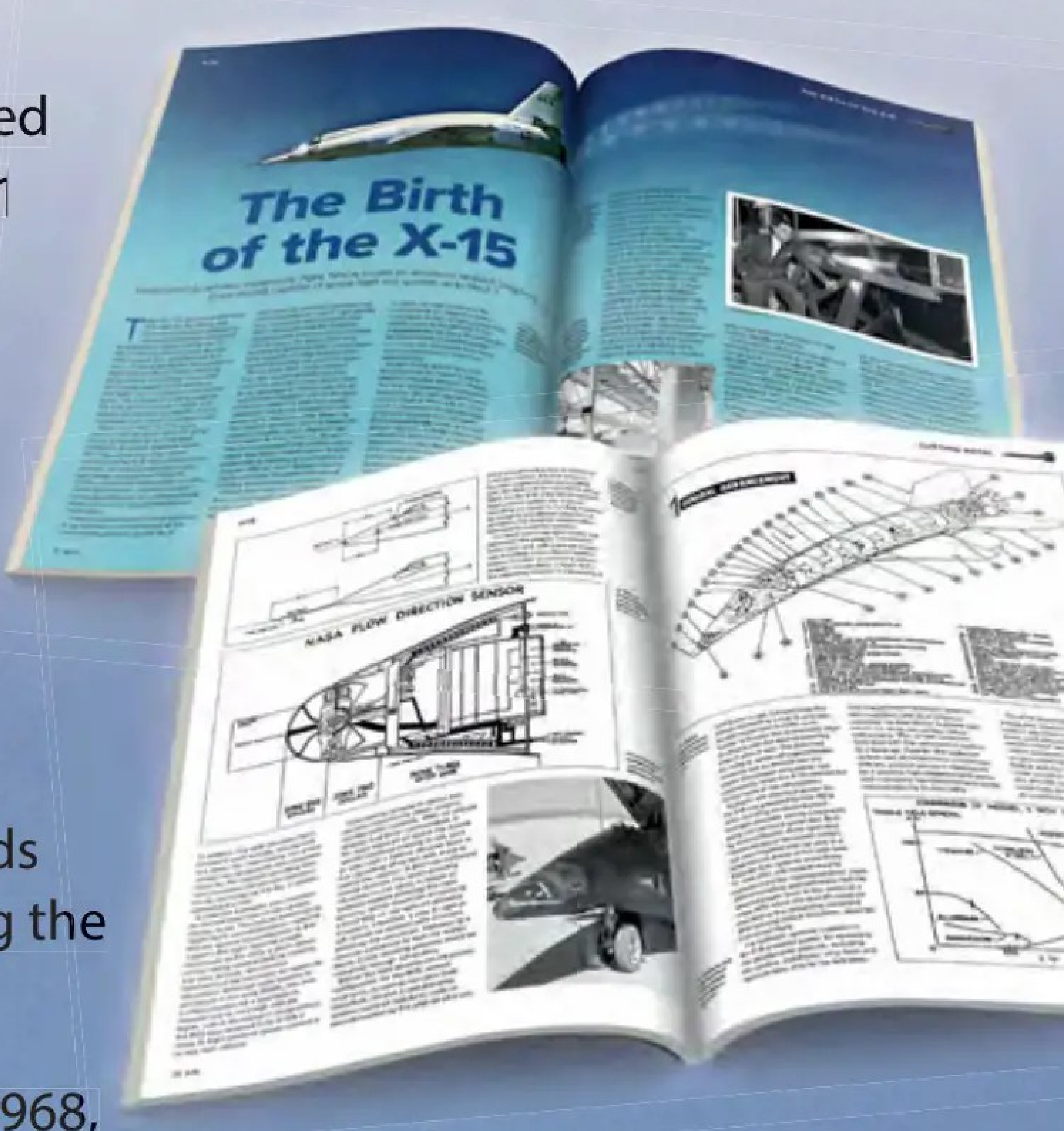
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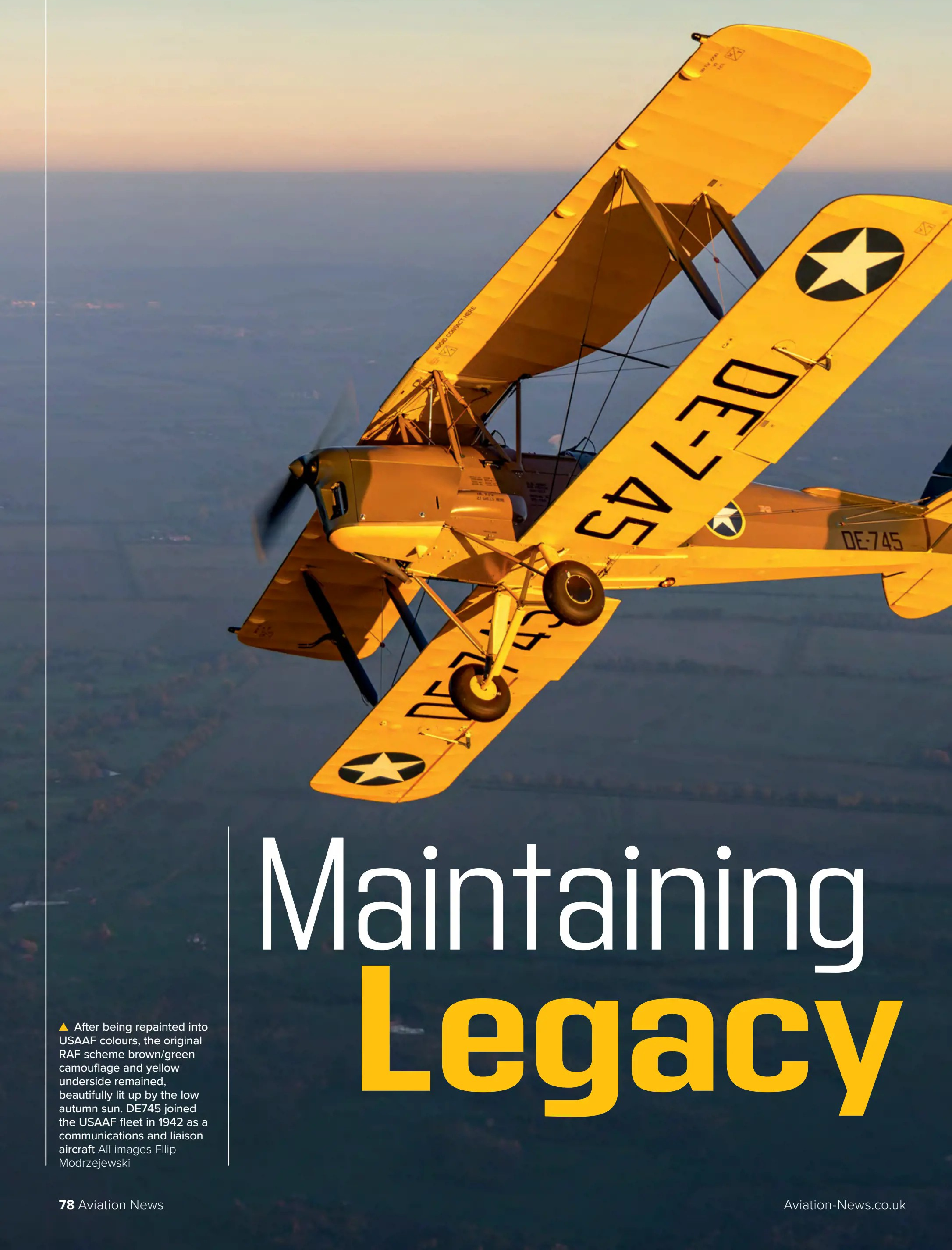


Maintaining Legacy

▲ After being repainted into USAAF colours, the original RAF scheme brown/green camouflage and yellow underside remained, beautifully lit up by the low autumn sun. DE745 joined the USAAF fleet in 1942 as a communications and liaison aircraft All images Filip Modrzejewski

The Tiger Moth is a familiar design to most readers and aviation enthusiasts, particularly in the UK. Here we learn about the aircraft that, via its scheme, honours the legacy of USAAF DE745 model named 'Dorothy', and later 'El Pisstopho Jr'. **Filip Modrzejewski** meets co-owner Jon Ryalls and is introduced to the machine that is maintaining a legacy

▲ Jon Ryalls with his Tiger Moth: the B-6 winter jacket and helmet replicate USAAF pilots' original clothing during the war. Jon works for Ryanair by day and in his spare time flies Tiger Moths and other aircraft

Tiger Moth G-BTOG was built in 1944 for the RAF (side number NM192) but served the French Air Force just after World War Two. Its military career was short and from 1951 it was the hands of civilian owners who flew it until 1972. It was then that the machine returned to the UK and was to be modified to look like a Curtis Jenny for a film - which didn't materialise. The aircraft rested in a hangar in pieces for many years until a group was formed to undertake its restoration, from 2006, at Audley End airfield in Essex. The restoration was completed at Vintage Fabrics by Clive Denny and his expert team, a process that took almost 16 years, on and off. It involved a new fuel tank and cowlings, rebuilding and recovering fuselage/wings, a new propeller and sourcing a completely new engine with zero hours – it was found in Argentina intact from 1940, still in its original container. On June 1, 2022, the machine was in the air for the first time after the long break and to the delight of many involved.

Story of the scheme

Why does G-BTOG boast a US Army Air Force (USAAF) paint scheme? Restorer and one of the

▼ The engine has only flown 50 hours in the last two years – finding it in zero hours condition has been a great success

The aircraft's luggage compartment contains brief information about the DE745, along with historical photographs

In the cockpit are the original instruments, along with the green fuselage interior elements

aircraft's co-owners, Clive Denny, had always wanted to prepare a Tiger Moth in a USAAF livery. The scheme was little known, but thanks to the support of historians it was possible to find relevant photographs to aid in preparing and painting G-BOTG in the desired colours.

Co-owner Jon Ryalls tells the story of the specific aircraft, DE745, that wore the scheme 'Dorothy': "Following a transfer from the RAF to the USAAF, DE745 maintained its serial number, but its nickname 'Dorothy' was given by the Americans. She was initially assigned to the 336th Bomb Group in October 1942 and later to the 353rd Fighter Group in February 1943, based at RAF Metfield, Suffolk, in support of the P-47 and later P-51 squadrons."

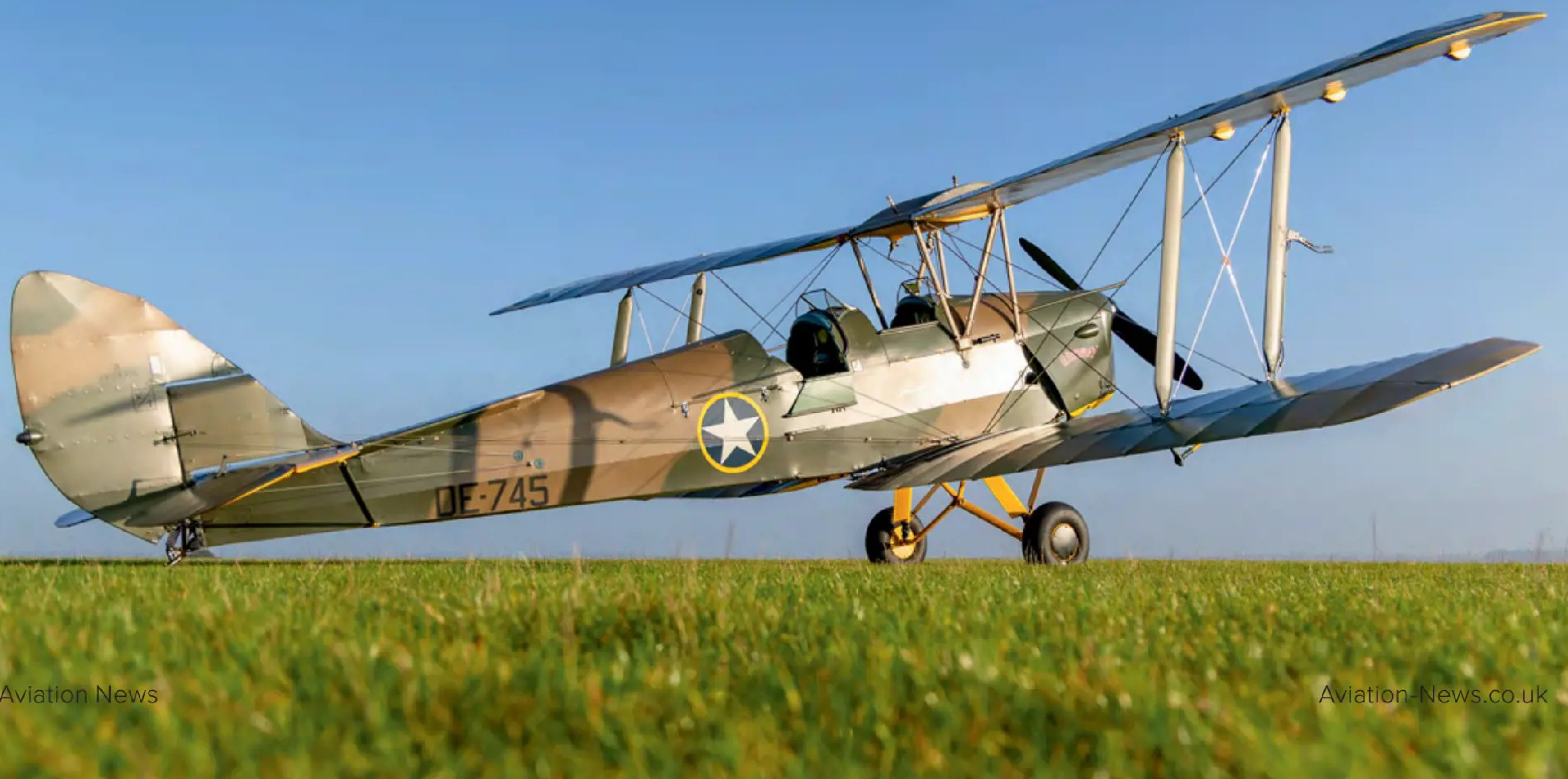
However, DE745 was known to be accident-prone, as were other Tiger Moths. One of the most memorable accidents (even captured in a photograph) was capsizing following a failed take-off in a cabbage field at Westleton, Suffolk, in September 1943, after aiding a downed P-47 pilot returning from operations. Until this incident, the aircraft wore two-tone RAF colours, with USAAF roundels applied over the top of the RAF roundels.

When the machine was repaired, it was repainted in US olive colours, leaving only the original yellow on the underside. During this time, the Tiger Moth also acquired bars on the roundels, a shark's mouth on the nose and a new nickname, 'El Pisstopho Jr', chosen by the squadron doctor who loved flying the Tiger Moth but remembered seeing a B-17 with the same name at the 100 Bomb Group. The suffix 'Junior' was added to appropriately reflect the size of the aircraft compared with the B-17 and its unfortunate incident.

While the original status of DE745 after its air force service and later in private hands is unknown, G-BTOG and its striking scheme is gaining popularity. It is in high demand, visiting many shows and events in the UK, and promoting the history of the USAAF when based in England. The heir to the US bomber tradition is now the 100th Air Refueling Wing at RAF Mildenhall in Suffolk, and at some events the Tiger Moth is invited to participate and take airmen on an open-cockpit flight.

Tiger Moth... for the 5th time

Over the last ten years, Jon has flown five different Tiger Moths, each with its own characteristics in flight. He is an experienced pilot flying many General Aviation and non-GA aircraft, as well as a passionate aerobatic aviator. His experience includes flying Cessna Caravans in Africa and B-17s in the USA, and he also has the Harvard, PBY Catalina and Boeing Stearman aircraft in his logbook.



At the rear, you will not find a classic wheel, but a skid – this limits the flights to grass airfields only

The main undercarriage has no brakes (as in modern aircraft) – this must be taken into account when operating from down-sloping runways

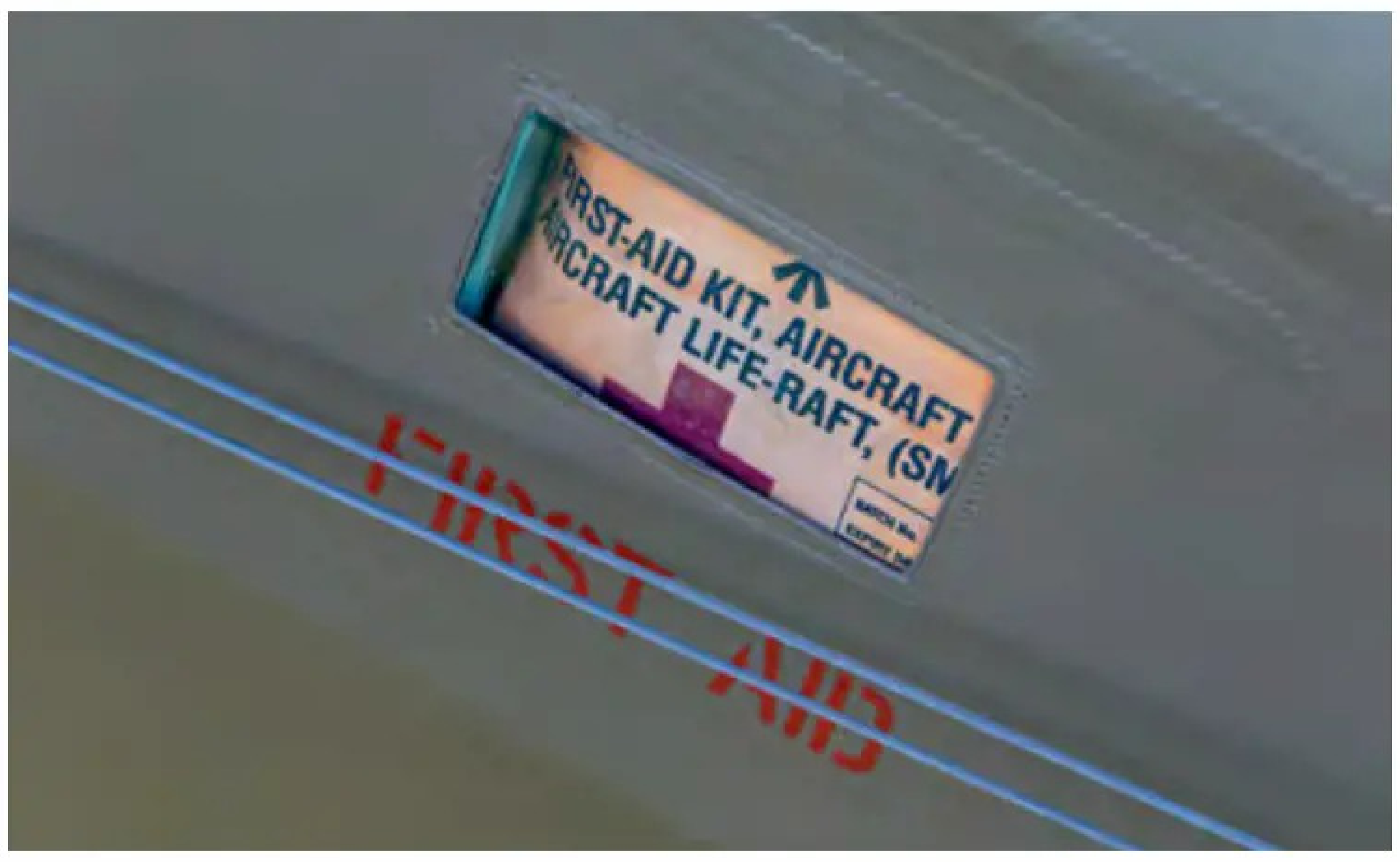
▲ The USAAF roundel replaced the original RAF one (same shape)

Jon and the aircraft's previous owners have aimed to keep it in its original condition: looking into the rear cockpit, one immediately sees the large, classic P8 compass and the centrally located turn and sideslip indicator, all combined with the original, green-coloured interior with metal, wooden and leather elements; such a cockpit makes an impression. Both the rear and front cockpits have control sticks and pedals, original instruments, switches for flares and Morse Code signals, and the so-called 'Gosport tubes', a system for in-flight communication between the front and rear cockpits – historically, the machine did not have an intercom.

To bring the aircraft in line with current UK-CAA/EASA standards and requirements, the machine has also been fitted with a transponder and radio so it can fly freely without major restrictions. These are subtly located in the lower part of the cockpit, between the pilot's legs, and play a vital role for daily flights in the London area with heavy traffic and many controlled airspaces.

The aircraft has many features that have not been changed in the past. The tail skid is still there, and the aircraft does not have the typical tail wheel. While this limits the machine's operation to grass airfields only, it is an element that is hard to find in current designs. In addition, taxiing with a tail skid and no brakes in the main landing gear increases the turning radius, and when the runway/taxiway slopes downwards, operations have to be planned very carefully.

Other very interesting features include the original first aid kit built into the fuselage behind the pilot. Also not to be forgotten is the pitot tube, which has two outlets, and the airspeed indicator located on the left wing strut, in addition to in the cockpit. This is a simple spring-loaded mechanism that indicates speed based on airflow. In the aircraft's luggage compartment are some historical photographs of DE745 and the machine's identification with the current registration, G-BTOG.



▶ The original first aid kit built into the fuselage behind the pilot

The cruising speed is about 80kts, and in turn, it is very important to use the rudder pedals to make the aircraft behave correctly. The air speed indicator on the Tiger Moth is located on the left wing on a spring that is moved by the airflow

Next Month

Jose Salgueiro

Aviation News

Oman Air

Sitting down with the chief executive officer of the Middle Eastern flag carrier

Deployed in Latvia

We visit the RCAF Tactical Aviation Detachment (TAD) supporting the multinational brigade in Latvia, flying the CH-146 Griffon to provide aerial support for troops on the ground

Top Aces

We visit the private air force Top Aces, which specializes in adversary services to the USAF with the mighty F-16 Fighting Falcon

Tri no more

We look at the extinction of three-engined passenger aircraft, specifically the B727, DC10, MD11, L1011 and TU154

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Editorial Team
Editor: Josef Campion
Email: josef.campion@keypublishing.com
Group Production Editor: David Taylor
Production Editors: Sally Hooton, Sue Parslow, Suzanne Roberts
Designer: Druck Media

Advertising Team
Media Sales Executive: Andrew Mason
Email: andrew.mason@keypublishing.com
Ad Production/Designer: Calum Handley
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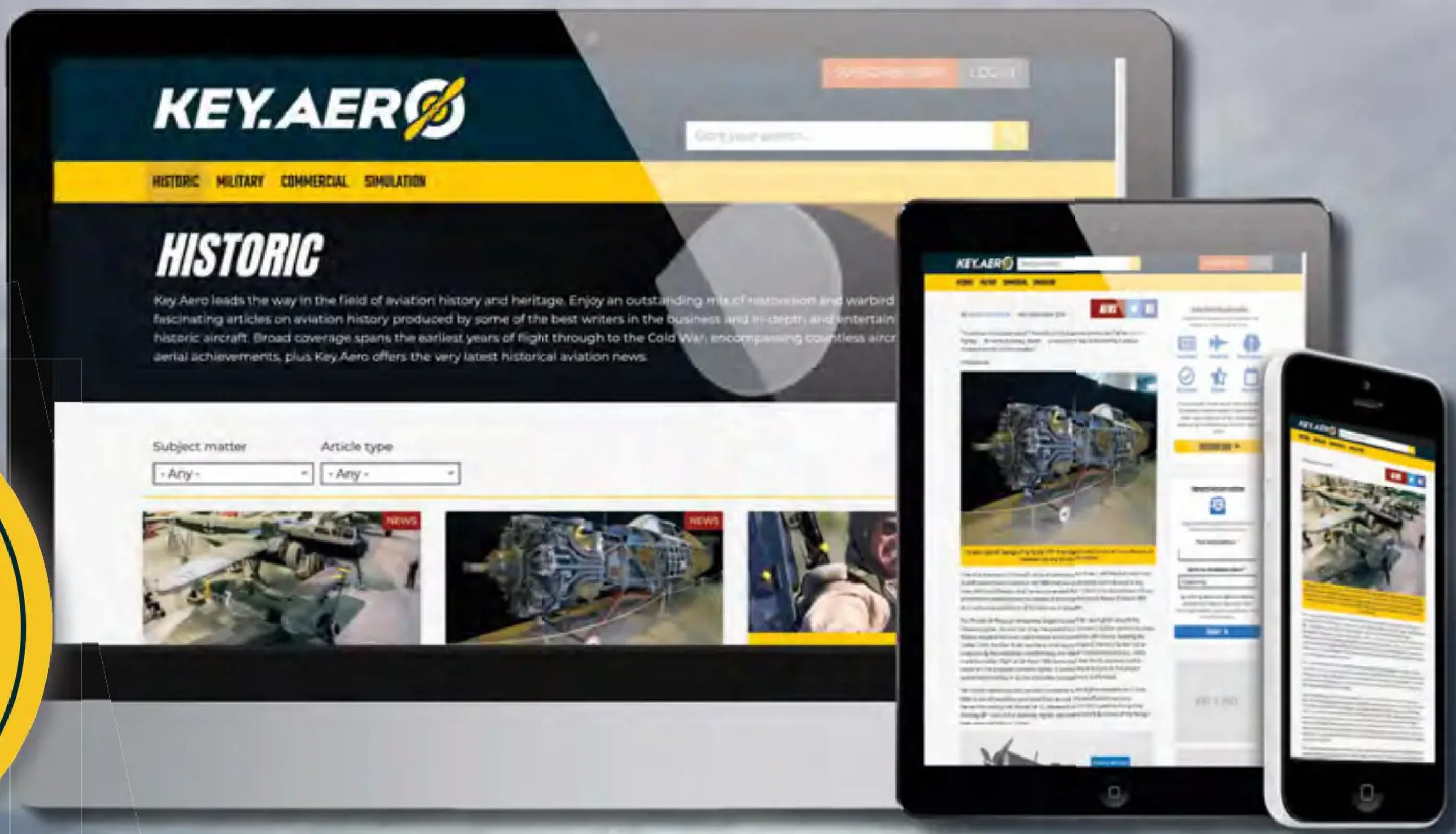
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